

# Exploring the influence of intersecting social identities on the leadership experience of female managers in the South African health system



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## **Abstract**

In the transition from the Millennium Development Goals to the Sustainable Development Goals, the importance of an integrated health system in which all health activities interact – including the multiple actors within the system – has gained greater recognition. In light of these transitions, the World Health Organisation and the Alliance for Health Policy and System Research called for a participatory leadership model, which engages with multiple health system actors in and out of the health system. It is a leadership model, which seeks to be inclusive of diverse and currently underrepresented stakeholders such as women. This leadership model is aligned with the gender equality movement in health leadership, which has rightfully gained global prominence over the last decade. However, it would be an oversimplification to assume all women in leadership positions have had to overcome similar obstacles. Treating women as a homogenous group tends to leave people out given the evidence that social identities culminate to produce unique experiences and therefore challenge feminist notions of the homogeneity of women.

Drawing on data from a primary study on gender and leadership in South Africa, this study sought to explore the influence of gender, as it intersects with race and professional cadre, on the experiences of female health managers in the South African health system. The primary study noted that black females felt as though they were “left behind” throughout their leadership journey.

This secondary analysis was undertaken using Bilge’s intersectionality approach. It is a two-step qualitative analysis approach, which uses an understanding of intersectionality to extract data related to social identity and intersecting social identities. The analysis assessed 1) how gender, race and professional cadre discretely inform each participant’s account and 2) how gender intersects with other social identities to create unique barriers for different women. It explored how intersecting identities might leave certain people behind - and how then to conduct health policy and systems research that can produce qualitative data necessary for creating formalised initiatives that address potential barriers.

## Preamble

While recognising the enormous potential of participatory leadership, this study focused on the experiences of formally designated health managers who were able to reflect on their journey towards their current position and explain the barriers in this journey, related to their entangled social identities.

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## Abbreviations

|        |  |
|--------|--|
| AHPSR  | Alliance for Health Policy and Systems Research          |
| ANC    | African National Congress                                |
| CI     | Critical Incidence                                       |
| CRIAW  | Canadian Research Institute for the Advancement of Women |
| EE     | Employment Equity  |
| HIC    | High Income Country                                      |
| HRH    | Human resources for health                               |
| HPSR   | Health Policy and Systems Research                       |
| LMIC   | Low- and middle-income countries                         |
| MDG    | Millennium Development Goals                             |
| PHC    | Primary Health Care                                      |
| RinGs  | Research in Gender and Ethics                            |
| RESYST | Resilient and Responsive Health Systems                  |
| SSA    | Sub-Saharan Africa                                       |
| SDG    | Sustainable Development Goals                            |
| UCT    | University of Cape Town                                  |
| UN     | United Nations   |
| WGH    | Women in Global Health                                   |
| WHO    | World Health Organisation                                |

## **Part A: Protocol**

# **Exploring the influence of intersecting social identities on the leadership experience of female managers in the South African health system**

## **Introduction**

### **The importance of people in leadership**

In the Sustainable Development Goals (SDGs) era, leadership is an essential building block in shaping health systems that are responsive to the health needs of the public it serves [1, 2]. Leadership also enables health systems to be resilient enough to withstand and respond to these needs, both after a particular disaster and in the face of chronic stress [1-3]. People are at the centre of the health system, and the relationships between people influence leadership, which in turn influences the overall functioning of the other health system building blocks. It is, according to de Savigny and Adam ([4], p. 31), “the multiple relationships and interactions among the building blocks that convert these blocks into a system.” Therefore, in order to support health system leadership to enable these blocks to interact effectively, leadership should capitalise on the diversity within the whole system to meet the SDGs and utilise the available human resources to achieve it [2, 5, 6].

The classical notions of leadership described as pre-planned, centralised decision-making that begins at the national level and filters down to the operational levels does not sufficiently encourage the creative capacity for adaptation and learning or collaboration that is increasingly recognised as necessary in health systems [7]. Enabling leadership to occur at district, national and provincial levels as well as within the various on-the-ground teams of people in the health system has the potential to nurture everyday resilience and overall health system strengthening [2, 3].

A more participative approach to leadership should be established - one that includes and empowers diverse actors in the health system in a way that allows free-flowing collaboration and

resource sharing [2]. In 2016, The Alliance for Health Policy and Systems Research (AHPSR) released a Flagship Report on participatory leadership for health. The report presented this approach as an integrated leadership approach that allows the coordination of an array of perspectives and diverse strengths [2]. This kind of model does not identify leadership as the “formal roles and functions of individuals or groups of actors” ([2], p. 15). Instead, it suggests creating opportunities for stakeholders to contribute freely and “share responsibility for actions across the pathway of change, from the decision to the implementation” ([2], p. 15). Evidence from the literature suggests participatory leadership could have the potential to foster better interpersonal relationships among groups of actors, and positively influence motivation and staff attitude [6].

This suggested approach to leadership should be seen as an opportunity for policymakers, health professionals and researchers to collaborate and explore the possibilities of reengineering the classical notions of leadership to be more inclusive of diverse and currently underrepresented stakeholders such as women [8]. Creating opportunities for greater participation in health leadership is an effort that is directly aligned with achieving gender equity goals – a pursuit underpinned by the SDGs. However, in order to foster greater participation in health leadership and therefore support global gender equity efforts, concerted effort should be made to explore the influence of gender – and other social identities – on leadership pathways for women. According to Shung-King et al. “leadership [...] resides in people [and,] social identities are among the multiple influences that impact on leadership behaviours and experiences within the health system” ([1], p. 2).

### **Social identity and the implication for leadership**

The health system is an integral component of broader society - the actors who work within it are shaped by, and shape, societal factors [1]. These factors include socially constructed roles and behaviours associated with identity as influenced by society, history and politics [9]. Previous literature on leadership and professional identity states that personal history, which includes family history, environment, childhood experiences and school, influence leadership and management

practices [10]. An organisational context often creates certain leadership norm and these norms are shaped by lived experiences<sup>1</sup> and personal history.

### ***Conceptual underpinnings of social identity***

Identities are not objects, but instead processes established through social constructs and influenced by history [11]. Social identities guide individuals to understand who they are and the purpose of their actions (i.e. the self-concept) [9]. The social group to which an individual perceives they belong influences the formulation of the sense of self [9]. Group membership - based on specific criteria - is set by social constructs, which are not inherently natural, but which are created by society, history and context [11, 12]. Social constructs also produce the societal norms of a particular society.

Norms are enforced through the process of socialisation - the act of internalising norms of a particular society through interaction with, and learning from, other people [13]. This internalisation leads an individual to determine a self-concept through associating with, or rejecting, a particular social identity [9, 12]. This process is mostly subconscious and happens all the time as we interact with other people, categorise, identify, compare (and repeat this process) [9, 13].

### ***Privilege, power and gender***

Interspersed in the process of social identity formation is privilege and power, which are bound to the experience of identities [14]. This experience, continuously entrenched through socialisation, is happening throughout the process of social identity formation. Social identity formation is not the end of the process but rather part of reinforcing or reconstituting social categorisation, social constructs, and even context and history. Social constructs nestled inside history and context, suggests too that the entire process of producing social identities is dependent on time and place. It

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<sup>1</sup> In a study on identity and leadership practices, Daire and Gilson [10], write that experiences impacted how facility managers managed themselves and their relationships with others, their response to situations and how they navigated their organisational setting. Daire and Gilson note that experiences from childhood, which culminate from family and school environments mainly influenced the way individuals with “emerging leadership identities” did their job ([10], p. 82, 93, 96).

is thus the connection between privilege and power and social identity that allows difference to be a potential cause of inequality and discrimination [14].

Gender<sup>2</sup> is an essential aspect of an individual's identity and the way power and privilege is linked to gender massively influences the lived experiences of an individual. In the same way as an institution, gender is governed by: "rules, [reproductive] laws, norms, and customs that shape behaviour in organisational settings, generating patterns or shared behaviour over time among groups of actors involved in a relationship with each other" [16]. Given the entrenched nature of gender roles, women in particular face different challenges in their career journey that are associated with the role and behaviours constructed around their gender [15]. The challenges faced by women often relate to "childcare needs [...], sexism and discrimination" ([1], p. 3). In response to gender norms, women must "shift" or adjust themselves to fit in [17]. Additionally, the individuals who belong to non-privileged groups (i.e. women) internalise daily prejudice and stereotypes and change their behaviour in response. Women in leadership positions may shift towards being male in the workplace and female in the home, or lean towards becoming more androgynous overall [12, 17].

The above-mentioned barriers potentially provide contextualisation for the lack of female representation in health systems leadership [8, 15, 18]. The lack of women in health leadership has been identified as a gap with various strategies<sup>3</sup> and statements being published by the World Health Organisation (WHO), United Nations (UN), independent organisations and research consortiums in pursuit of gender equality in health system leadership. SDG 5 speaks specifically to achieving gender equality and seeks to address the gender gap in health leadership. The purpose of

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<sup>2</sup> Gender will be conceptualised as the "socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for males, females and other genders" ([15], p. 1070). Additionally, gender will be considered in the binary terms of men and women/ male and female as the participants only expressed themselves as such. Further research should explore how different gender identities intersect with race or professional cadre to influence leadership.

<sup>3</sup> Several strategies include Women in Global Health (WGH) – an organisation for gender equality in health leadership; the WHO Global Strategy on Human Resources for Health: Workforce 2030; the UN High Level Commission on Health Employment and Economic Growth, and the Global Health 50/50 Report – a comprehensive review of gender equality policies [8].

target 5 of the goal is to “Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life” [19].

### **Leadership in the South African health system – history and context**

Apartheid was referred to as a “separate development” policy ([20], p. 11). It was a political and social system that did more than institutionalise racial separation. It instituted a system of *Baasskap* (i.e. domination) or white supremacy that used the law to justify the unequal division of rights, privileges and amenities among black and white people [20]. The separate and unequal system meant that black people had limited opportunities to take up leadership positions and experienced a lack of career options or development in all sectors [1, 20].

#### ***The problem of the colour - and gender - line<sup>4</sup>***

Historically, apartheid was a system that created race-based policies to ensure the white minority would retain access to the majority of the privileges, rights and amenities [20, 21]. However, it was also a time of immense gender inequality. Given the institutionalised racism and sexism that permeated throughout South African society, it was a particularly challenging time for black women.

In societies where there is an unequal distribution of resources and opportunities, “female” work is associated with specific jobs ([20] p. 16). In South Africa, black men also pursued so-called female work due to the structural limitations created for black people under apartheid. Thus the presence of black women in the labour force was even smaller when compared to that of men [20]. Black

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<sup>4</sup> The title of this section is taken from W.E.B. Du Bois’ ‘The Souls of Black Folk’. This phrase first appears in the opening sentence of Chapter 2: Of the Dawn of Freedom: “The problem of the twentieth century is the problem of the colour-line [...] however much they who marched South and North in 1861 may have fixed on the technical points, of union and local autonomy as a shibboleth, all nevertheless knew, as we know, that the question of [*black*] slavery was the real cause of the conflict. [...] What shall be done with [*black people*]?” [22]. Although, this is Du Bois’ prediction and critique of the American society after the fall of an oppressive system, his words are pertinent for the twenty-first century South African democratic society. While legally, racial oppression has been dismantled, this title is meant to represent the de facto difference of experience for people of difference races and genders even after apartheid.

women living in homelands<sup>5</sup> had limited professional employment options and often pursued teaching or nursing, yet female representation in these fields was severely limited.

The opportunity to pursue professional nurse training for white women started in 1877 [23]. Twenty-five years later, black women were able to study to become professional nurses [23]. Once given training access, black female student nurses also had to cope with a situation where they were “pitched into an alien learning situation to study through a language medium not their own, and had to cope with innumerable cultural problems and many unwarranted prejudices” (p. vii).

Under apartheid, white men who were at the top of the medical professional hierarchy filled most management positions and traditionally received leadership training [24]. Therefore leadership positions were white male-dominated leaving women, especially black women to lag behind. The South African Health Review [cited in 7] recognised the importance of health leadership in 1998, indicating that part of rebuilding the health system meant discussing what effective leadership could look like for all health professionals in post-apartheid South Africa.

### ***Employment Equity Act of 1998***

The dismantling of apartheid in 1994 brought with it reform led by the African National Congress (ANC). A primary focus of the ANC was to address the legacy of discrimination in South African’s human resources through the Employment Equity (EE) Act [25]. The Act states:

*“No person may unfairly discriminate, directly or indirectly, against an employee, in any employment policy or practise, on one or more grounds, including race, gender, sex, pregnancy, marital status, family responsibility, ethnic or social origin, colour, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language and birth” [25].*

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<sup>5</sup> Homelands were referred to as “Bantustans” or, “reserves” and were territories set aside for black South Africans and Namibians (previously referred to as South West Africans) [27].

It aims to create a non-discriminatory labour market in South Africa that promotes fair treatment and eliminates unfair discrimination through affirmative action [25]. The Act encourages equal opportunities for diverse individuals in South Africa, and as a result, hiring practices in different professions have been reconstituted to prioritise previously disadvantaged citizens through the implementation of affirmative action strategies. However, the Act is an example of how policy and the practicalities around implementation sometimes have unintended consequences. While the Act acknowledges that social factors that influence lived experiences and access to opportunity, it approaches transformation in an additive manner. Furthermore, the false security that comes with viewing EE policies as a catchall for addressing historically intersecting discrimination might be detrimental to the pursuit of gender equality especially if there are still persistent barriers for previously disadvantaged people. Therefore, an intersectionality approach – which explores the inherent links that connect mutually constructed processes related to intersecting social identities that lead to social differences – is a better approach for gender equality pursuits [8, 26, 27].

### **Intersectionality**

An intersectionality approach understands that systemic power impacts the marginalised in different ways [27]. American scholar Kimberlé Crenshaw [28] first coined the term in 1989. Crenshaw's research interests were around law and race [27, 28]. Using intersectionality, Crenshaw attempted to understand the subordination of black women in a more in-depth manner, and thus discovered that the law did not fully recognise the influence of intersecting identities.

According to Crenshaw, experiences of black females cannot only be understood in terms of either being black or as being female - as two separate experiences - but rather as an intertwining experience [28]. The interaction between two separate identities intersects and, as Crenshaw posits, reinforce one another [28]. An intersectionality approach to understanding lived experiences, thus, captures the complexity of intersecting identities far more [26].



### ***Conceptual underpinning of intersectionality***

Intersectionality describes identities as interacting and influenced by privilege and oppression, such as racism and sexism [29]. An intersectionality approach posits “multiple social [identities] (e.g. race, ethnicity, gender, socioeconomic status) intersect at the micro-level of individual experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level (e.g., racism, sexism, heterosexism)” [29]. This understanding of intersectionality is significant as it posits that one’s social identity is multifaceted and influenced by history, contextual social relations and the result of how power operates and is structured both on a micro and macro level [28, 30].

The intersectional wheel (see Fig 1) is a visual depiction of how intersectionality functions across levels [31]. The central layer represents the unique circumstances of an individual, such as the family one is born into and access to opportunities. The second layer from the centre represents the aspects of one’s social identity such as gender, race and, class. This layer represents the micro-level – the unique circumstances and social identities that culminate into an individual’s unique lived experiences [32]. The third layer represents the various forms of discrimination that influence identities, such as sexism and racism. The fourth, outermost layer represents the structural or macro forces (i.e. history or the legal system) that perpetuate and reinforce discrimination and social identities. Encased by the subsequent layers, the first layer implicates and influences individuals’ “unique circumstances” [31].



**Fig 1** The Canadian Research Institute for the Advancement of Women (CRIA) Intersectionality Wheel Diagram [31].

***Is an intersectionality approach applicable in the South African context?***

South Africa is an example of the inextricable connection between social identity and context and history. The history of South Africa, which is imbued with racial and gender discrimination, limited and still limits the career development and progression in health leadership for (often black) women and black men [21, 23, 24]. The fragmented development of human resources for health (HRH) in South Africa is due to the legacy of apartheid – which created a health system that divided staff into separate “health facilities, homelands and ‘own affairs,’” causing “differential, discriminatory and exclusive treatment of [black people] in professional bodies and the development of human resources” ([24], p. 319).

The political, economic and land restriction policies reinforced socially constructed hierarchies, which significantly affected the organisation of social life, including the fragmented development of HRH [21]. The introduction of the 1998 EE Act was a means to address inequality in human resource development, as discussed earlier, it is not a catchall for remedying the inequality that persists.

**The primary study**

With this as the contextual background, this study will involve the secondary analysis of data from a primary study that explored the influence of gender on leadership in the public health system of South Africa [1]. In the primary study, it was discovered that black women felt “left behind” in career advancements [1]. By specifying social dimensions as separate entities as the EE Act does, might lead to inadvertent prioritisation of the least vulnerable within previously disadvantaged groups [28]. For example, white women or black men might have more access to opportunities because of their whiteness and maleness respectively, and this could be a potential cause of the black women in the primary study feeling left behind [1].

***Background***

The primary study was part of a larger study conducted in three African settings: Kenya [33], Nigeria [34] and South Africa [1]. It aimed to explore the role and influence of gender on the leadership

experiences and career trajectories of senior health system managers in South Africa [35, 36]. While the South African study did not set out to use an intersectionality lens, the primary study noted that gender intersected with race and professional cadre<sup>6</sup> [1]. The interactions between these three social identities influenced leadership experience, practice, and appointment.

Meanwhile, in Nigeria, gender intersected with professional and social networks, which in turn influenced career progression [34] yet in Kenya, there was less recognition of gendered nuances. However, professional hierarchies – with medical doctors at the top of the hierarchical structure - affected leadership or career progression regardless of gender [33].

### ***Research design***

The South African study [1] employed a qualitative exploratory case study design to explore the phenomenon of gender and its influences on career trajectories, leadership perceptions, and leadership experiences of senior health managers in South Africa in five geographical districts located across two provinces [1]. Data were collected through interviews, life histories, critical incidence (CI) analysis as well as career pathway mapping [1]. The socio-historical context of South Africa as influenced by apartheid meant that gender alone did not influence the career trajectories or practices, but instead intersected with race and professional cadre. The authors recommended further analysis using an intersectionality approach to explore these interactions [1].

### **This study**

Using the data from the primary study briefly described above, this study will conduct an in-depth analysis using an intersectionality approach to explore the influence of social identity as well as gender intersecting with other social identities on the leadership experience of female managers in the South African health system.

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<sup>6</sup> The primary study refers to this social identity as "professional hierarchy." This study will refer to this social identity as "professional cadre." Professional hierarchy is the phenomenon rather than social identity. The primary study identified that the phenomenon of professional hierarchy in the medical profession exists because there is an entanglement between gender, race, and professional cadre.

### ***Research rationale***

The WHO listed leadership and governance as one of the six fundamental building blocks of the health system [37]. However, in order to meet the SDGs, there is also a need to address the current state of leadership and instead focus on capitalising on the knowledge and abilities of diverse stakeholders in the health system. AHPSR – in its 2016 Flagship Report – specifically identified the need for greater participation in health leadership, noting:

*“Strengthening leadership in health requires a focus on ensuring an eco-system that enables participation from diverse actors, nurtures debates and provides an opportunity for all actors to assert their leadership potential, as the need arises, to the benefit of improved health-system performance” ([2], p. 6).*

However, research in LMIC and African health system leadership literature - particularly looking at the influence of gender - is sparse [2, 5]. While intersectionality is also not commonly used in health policy and systems research (HPSR), it has been used in other disciplines<sup>7</sup>, [8, 38, 41].

### ***Research purpose and overall objectives***

Given the importance of leadership in meeting the global goals and additionally, the limited research on gender and leadership, as well as the identified influence of gender as it intersects with other social identities noted in the primary study [1], this exploratory [42] study seeks to 1) add to the repository of literature on gender and leadership in LMIC and African contexts; 2) determine a functional use-case for intersectionality in HPSR; 3) conduct a qualitative analysis, which uses an intersectionality approach, to understand the barriers related to participation for diverse and predominantly underrepresented stakeholders in health leadership – which in this case is women.

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<sup>7</sup> Intersectionality has been best used in predominantly qualitative research [38]. In a paper on the best LMIC research that applies an intersectional lens, Grineski, Hernandez and Ramos [39] were one of the resources listed. That research used an intersectional approach to understand the experiences of parents who raise children in a violent context. Kennedy et al. [40], another paper listed in Larson et al. use intersectionality to understand the stigma around HIV contracted by men who have sex with men in Swaziland.

Although there is plenty theoretical postulation on intersectionality, including recently developed intersectionality toolkits [27, 31, 43], literature reviews [8, 38] and other research [32, 44, 45] on the subject, there is still space to add to the methodological guidelines regarding how and when to conduct intersectional research in LMIC health systems. This study could contribute to the existing resources on how to do intersectional analyses by providing insights from a South African context. These insights would be grounded in the experiences of everyday life while also allowing us to see where issues stem from on a macro-level and the connections people have to issues on a micro-level. Therefore, showing the possibilities for, and barriers to, achieving participatory leadership in South African contexts.

In South Africa, the fragmentation of HRH is due to apartheid and still persists in health and other sectors in the country<sup>8</sup>. The only way to curb historical inequality is through formalised planning and policies around HRH that engages with the complex nature of inequality to produce effective solutions [24]. An intersectionality approach has the potential to create “inclusive and more egalitarian policy alternatives” that take into account the complexity surrounding inequality ([44], p. 268). While this study might not provide groundbreaking policy alternatives, it has the potential to provide initial and descriptive data that could allow for a better understanding of health system leadership. This kind of data can provide insights related to the micro-interactions and experiences of intersecting social identities in a South African context and the barriers it creates for different women in this context [47].

### ***Research questions***

This study explores the experiences of female health managers through the composite lens of intersectionality. Below are the primary and secondary research questions:

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<sup>8</sup> According to the 19th Commission for Employment Equity Report 2018-2019, white people hold 66.5% of top management positions; men hold 76.5% of top management positions [46]. Therefore, black female representation at the top management level is sparse.

*Primary research questions*

1. How does social identity discretely inform the leadership experience?
2. How does gender intersect with other social identities to further influence the experience of women in leadership in the South African health system?

*Secondary research question*

1. How do intersecting social identities limit the leadership experience of women in health management positions?

There are two primary research questions and a secondary research question. The primary questions seek to explore the influence of social identity on the individual managers and then how gender and other social identities coalesce to inform the leadership experience of female managers. The secondary research question seeks to take the initial inquiry one step further by exploring the enablers and limitations of social identity and intersecting social identities on the leadership experience of female healthcare managers. The order of the primary research questions follows Bilge's intersectionality approach ([48], see Table 2), which will inform the methodology section of this study.

Gender, race and professional cadre are the three social identities with which this analysis will begin. The choice to focus on these three social identities is influenced by the findings of the primary study, which found that gender and race intersected to strongly influence the lived experiences and career trajectories of black female managers. Professional cadre compounded the influence of race and gender again, for these female managers [1]. The primary study also concluded that race and gender intersected to influence the experiences of black male managers, although these findings were sparse and not consistent among male managers. [1]. For this reason, and because the experiences of black females were prominent in the primary study findings, this study will explore the experiences of female managers.

The analysis will begin with only looking at gender, race and professional cadre. However, if during any phase of analysis other social identities come to the surface – such as ethnicity or socioeconomic status – then it will be introduced into the second step in the two-step methodology. These questions could also allow other emerging themes to come to the surface. Themes such as the perception of the EE Act, the importance of allies and mentors for women in leadership, being the first woman or black person in a position of seniority as well as stereotypes participants might have about race and gender [1].

## **Methods**

### **Primary study methods**

The primary study's research design employed a qualitative case study approach, as it explored an under-researched and complex social phenomenon within a particular context. The study population consisted of 19 senior health managers – with each health manager classified as a case – coming from two provincial departments of health. They are all leaders who “routinely translate strategic plans” set at either a national or provincial level “into operational plans for implementation at their level and below” ([1], p. 3).

The 19 participants were purposively selected because they each had characteristics or lived experiences that were needed to explore the research phenomenon. The sampling frame included both provinces and districts, which translated into five districts across two provinces. Participants were from both urban and rural districts across the provinces. The two provinces that were selected have had different political histories and leadership trajectories, but both have a similar economic status. The participants were recruited by obtaining a list of senior managers from health authorities and then they were invited to partake in the study [1]. While 14 of the 19 participants attended multiple interviews, the five participants who could not attend a second interview due to time constraints attended one interview that combined all the topics.

## Part A: Protocol

Of the 19 participants interviewed, 14 were female, and five were male. The participants' included 12 nurses (professional or registered), five doctors, an occupational therapist and an environmental health practitioner. Table 1 includes the full details of all 19 participants. The primary study also noted that the decision to make the distinction between only black and white was because more detailed racial categories "did not reveal marked differences" ([1], p. 5).

The approaches used in the interviews were life history, CI and vignettes, all of which encouraged participants to share the barriers and enablers in their leadership journey. The life history approach captured participants' leadership experiences and career trajectories. The CI approach allowed participants to reflect on significant events throughout the leadership journey. The vignettes encouraged open discussions around perceptions of race and gender biases related to leadership appointments. It also allowed for a natural segue into discussions around the perceptions of the EE policy and participants' experiences thereof.

Participants described their full career trajectories recalling the various factors and individuals who played a role in their career paths. For the most part, the career trajectories of participants were not linear. Doctors, however, had a more distinct career trajectory overall compared to nurses. The doctors in the primary study sample predominantly went from being a clinician to taking a position in middle management from early on in their careers and continued to follow an upward trajectory leading them to their current positions. Nurses had to "climb the ladder from the lowest level of management," and their careers included more lateral moves as compared to the doctors in the cohort ([1], p. 5). Currently, many of the nurses held deputy director positions, whereas doctors in the study sample held the director position predominantly.

Participants used CI as a means to explore practices of leadership. The incidents identified by participants included personal challenges in team dynamics and the organisational culture as well as tragic events that they had no control over, such as the death of a colleague. Participants recounted both the positive and negative impact of CI on personal leadership and team performance [1].



## Part A: Protocol

Perceptions of ideal leadership and leadership practices provide insight into how managers view the leadership practices of others as well as their overall perceptions of ideal leadership characteristics.

Participants understood leadership and management as separate but connected entities and noted that some aspects of their jobs fit into the realm of management, while others fit into the realm of leadership.

In exploring the influence of gender on career pathways, and perceptions and practices of leadership, it was noted that gender tended to intersect with other social identities to influence the experiences of (often black) female managers.

**Table 1** Participant summary

| Participant number | Sex    | Age | Race <sup>a</sup> | Position at the time of the primary study | Years in current position | Professional Background           | Years in management |
|--------------------|--------|-----|-------------------|---|---------------------------|-----------------------------------|---------------------|
| 1                  | Female | 54  | Black             | Deputy Director                           | 4                         | Professional Nurse                | 11                  |
| 2                  | Female | 40  | White             | Deputy Director                           | 6                         | Professional Nurse                | 6                   |
| 3                  | Female | 57  | White             | Director                                  | 12                        | Professional Nurse                | 30                  |
| 4                  | Male   | 41  | White             | Medical Manager of Hospital               | 8                         | Medical Doctor                    | 8                   |
| 5                  | Female | 45  | White             | Deputy Director                           | 4                         | Occupational Therapist            | 10                  |
| 6                  | Female | 61  | White             | Director                                  | 3                         | Medical Doctor                    | 20                  |
| 7                  | Male   | 60+ | Black             | District Director                         | 5                         | Medical Doctor                    | 20 years +          |
| 8                  | Female | 49  | Black             | Director                                  | 7                         | Medical Doctor                    | 10                  |
| 9                  | Female | 50+ | Black             | District Director                         | 5                         | Professional Nurse                | 15 years +          |
| 10                 | Female | 48  | Black             | Director                                  | 5.5                       | Registered Nurse                  | 5.5                 |
| 11                 | Male   | 62  | Black             | Director                                  | 17                        | Environmental Health Practitioner | 30                  |
| 12                 | Female | 60  | Black             | Director                                  | 9                         | Professional Nurse                | 18                  |
| 13                 | Female | 56  | Black             | Director                                  | 3                         | Professional Nurse                | 16                  |
| 14                 | Male   | 67  | Black             | District Director                         | 12                        | Medical Doctor                    | 12                  |
| 15                 | Female | 48  | Black             | Deputy Director                           | 1                         | Professional Nurse                | 11                  |
| 16                 | Female | 49  | Black             | Chief Director                            | 2                         | Professional Nurse                | 11                  |
| 17                 | Male   | 48  | Black             | Assistant Director                        | 1                         | Professional Nurse                | 17                  |
| 18                 | Female |     | Black             | Director                                  | 10                        | Professional Nurse                | 20                  |
| 19                 | Female | 53  | White             | Deputy Director                           | 3                         | Professional Nurse                | 17                  |

<sup>a</sup> According to the EE Act, black refers to citizens of “African, [Mixed-race] and Indian” descent, and white refers to citizens of European descent [25]. While the primary study refers to participants as either black or white - which is consistent with the EE Act and the racial terms that are in everyday use in South Africa - this does not imply acceptance of racial attributes [1]. The racial terminology used in this study will remain consistent with the terminology used in the primary study and the EE Act. Again, this does not imply the acceptance of particular attributes. The need to analyse experiences according to race is necessary when applying an intersectional lens in a South African context because this context has an entrenched history that segregated populations according to specific racial categories [21]. Inherent in an intersectionality approach is the interplay of intersecting identities and historical, social and cultural contexts [26].

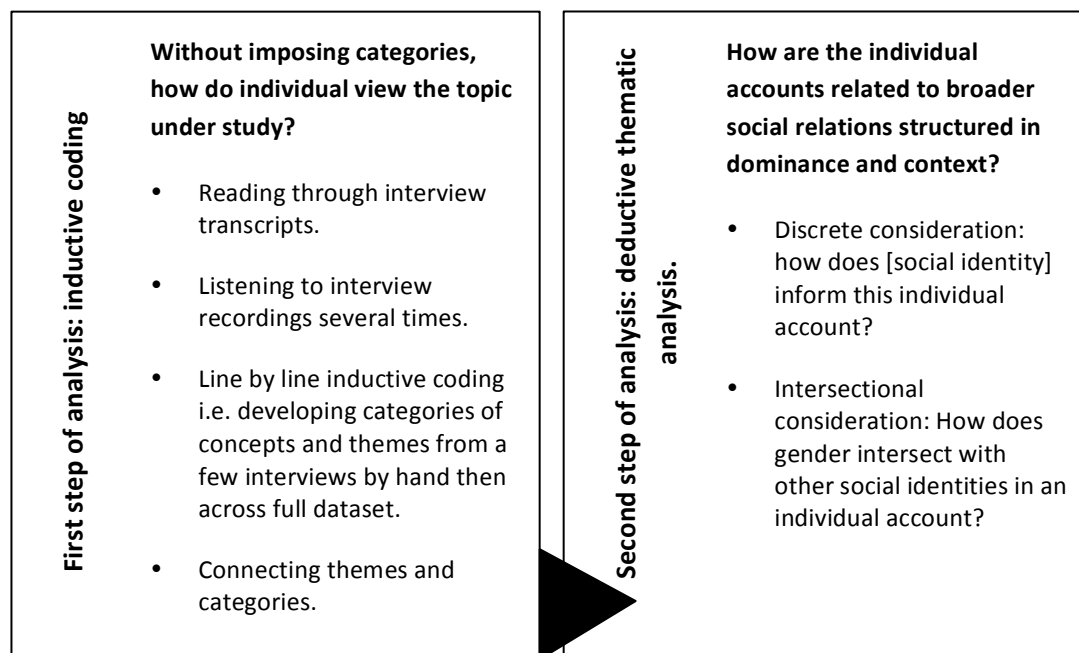
## Methods for this study

This study will use an intersectionality approach to analyse the qualitative data collected in the primary study. Instead of exploring leadership practices and career trajectory, as primary study set

out to do, this study will focus solely on the lived experiences and leadership experiences of female managers and the influence of gender as it coalesces with race and professional cadre on these experiences.

The most appropriate way to envision an intersectional approach is to consider it as a theoretical framework or approach rather than viewing it as merely an applied theory or a methodological approach [45, 49, 50]. The primary data collected did not intend to conduct an intersectional analysis. However, Bilge's [48] two-step approach allows for the exploration of social identities and how they intersect through guided questions.

This research design uses a flexible, two-step intersectionality approach that combines inductive coding and a deductive thematic analysis [48]. Bilge developed this two-step approach as a way of bringing together intersectionality approaches and inductive methods [48]. The first step will analyse the data from all 19 participants, as shown in Table 1. This step will then guide the second, deductive step. The second step will look at the coded data of the 14 female participants. Fig 2 visually depicts the two-step process, while Table 2 lists the specific questions that will guide the two-step process.



**Fig 2** Bilge's two-step intersectionality analysis approach (adapted from Rodriguez, [55])

**Step One: inductive coding**

The first step follows some of the principles of a traditional inductive coding [48, 51]. All interview transcripts and recordings will be listened to and read. Five interviews will be selected and coded by hand to establish the initial codes and code descriptions [52]. Once this is complete, all 19 interviews will be uploaded onto Nvivo 10 (including the five coded by hand), inputting the initial codes with clear descriptions thereafter. The initial interpretive process then commences, and it will include inductive coding of all 19 transcripts, including the original five to verify the initial codes [53, 54]. After line-by-line coding is complete on all 19 transcripts, the codes will be exported into an Excel database and refined or expanded upon, and the codes and code descriptions will be updated in Nvivo, if necessary.

**Table 2** Intersectionality approach (taken from Bilge [48]).

| Social identity Categories | Discrete Consideration <sup>b</sup>                         | Intersectional Consideration   |
|----------------------------|---|--|
| Gender                     | How does gender inform this individual account?             | How gender interacts/intersects with other social identity categories in this individual account? Or which dimensions of the experience are interacting with gender? |
| Race                       | How does race inform this individual account?               |  |
| Professional cadre         | How does professional cadre inform this individual account? |  |

<sup>b</sup> "Discrete" refers to data that can be categorized into a classification, which in this case are the social identity categories of gender, race and professional cadre. While traditionally a term used in mathematics to refer to countable values, the discrete consideration column of this approach is meant to indicate that as part of this intersectionality approach, gender, race and professional cadre will first be considered independently before analysing how gender intersects with the other social identity categories.

**Step Two: Deductive thematic analysis**

After completing the analysis described above, this step will involve the use of Bilge's intersectionality approach<sup>9</sup> to analyse the coded interviews of the 14 female participants (see Table 1 for a list of participants and Table 2 for Bilge's intersectionality approach). The questions used will explore how gender, race and professional cadre discretely (i.e. independently) influence and intersect to influence the leadership experiences of female healthcare managers given that these

<sup>9</sup> Bilge [48] refers to this table as a "template" in the original research from which this intersectionality approach originates. This study will refer to it as an "approach" for ease of understanding.

were the three social identities discussed in the primary study. Data from male participants will be analysed if it provides insights into the female leadership experience.

## **Rigour**

There are four criteria of trustworthiness in qualitative research: credibility, dependability, confirmability and transferability [55]. To ensure credibility and that the interpretations of the explanations are consistent with the data, the thematic analysis step that relies on in-depth research on intersectionality and its history in the field of health policy and systems research, as well as a working knowledge of social identity theory, will ensure that the data drives the interpretation. The health care setting within the broader South African context and history will be researched and used as a guide for the interpretations.

According to Bowleg, the researcher is responsible for “interpreting [...] data within the context of socio-historical and structural inequality” ([26], p. 321). The replicability and transferability of using an intersectionality approach are enhanced through the step-by-step methodology above. If inconsistencies arise, it will be reported upon and discussed.

As a means to reduce subjective bias and increase the dependability of the findings, the analysis phase will follow the steps laid out in the methodology listed in this protocol, and any decisions to revise the methodology will be questioned and recorded in the journal article which forms Part C of this dissertation [56]. The codes used in this study will be unique to the proposed research questions and grouped into categories with names taken from the data itself, where possible [56].

The researcher’s subjectivity can impact data analysis. Therefore, one’s social position, role and power must be considered when taking an intersectional approach. According to Fontana [57], reflexivity is seen as imperative to qualitative research. As is advised, “reflexivity,” should be considered before setting priorities and directions in this research [27, 58]. While this research is

undertaken in South Africa by a South African, it is essential to be cognisant that participants should not be seen as representative of a particular social identity and must not assume that a given social identity or intersecting social identities have a particular and objective meaning. Instead, the research must continue to ask how a particular participant describes their own leadership experience without making assumptions about that experience based on the participant's race, professional cadre, gender or the intersection between these three social identities.

Although intersectionality states that all people belong to some or other social groups such as race, class, gender, sex, and disability status, there might be no explicit mention of a particular social group experiences in some cases. However, it is suggested that the researcher must make "explicit [...] implicit experiences of intersectionality," ([26], p. 322). Therefore, this research will be conducted with the utmost integrity and care when making judgments.

## **Ethical Considerations**

This study recognises the need for anonymity when engaging with data that includes information of senior stakeholders in the health system. Therefore, in order to protect the participants, all information will be anonymised. Furthermore, all five districts considered in this study will remain unnamed, and this includes any mention of geographical information.

All the data collected (both interview transcripts and recordings) will be kept securely in an invite-only Dropbox folder on a password-protected laptop. None of the data will be emailed or saved outside of the secured digital folder.

This protocol directly complies with the latest versions of the Declaration of Helsinki (2008) and the Department of Health Ethics in Health Research: Principles Structures and Processes (2004). Furthermore, there is no conflict of interest relating to this study. Finally, ethics approval for this study will be acquired through the standard University of Cape Town (UCT) ethics process.

## **Risks and Benefits**

The primary study received ethics approval and this study, using the same data, will be conducting secondary data analysis. Therefore, this study is low-risk, as it requires no further input from participants.

## **Study Limitations**

A main study limitation is that the data was not collected with the intention to undertake an intersectional analysis. There might have been new or additional intersectional identities at play, but these were not probed in the data collection phase of the primary study, as it did not pertain to the primary study objectives.

The primary study listed the choice to use a case study design as a limitation because although it was applicable for the scope of the research phenomenon, it cannot be scaled up and is not generalisable to other contexts. However, this is not relevant to this study, as intersectionality is not about producing generalisable work, but rather to produce work that is in-depth and captures nuanced experiences.

A primary study with a focus on intersectionality might unearth different themes altogether at the data collection phase if questions related explicitly to intersectionality. Nevertheless, this work can still add to the scope of current intersectional work by insights on the approach to using intersectionality in HPSR work that encourages the participation of diverse stakeholders in leadership in LMIC and African contexts.

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## **PART B: Literature Review**

A narrative review of the literature on health leadership in African and low- and middle-income countries and the influence of social identity within this literature terrain

### **Introduction**

Women make up the majority of the global health workforce yet gender parity in leadership positions and decision-making spaces in low- and middle-income countries (LMIC) and high-income countries (HIC) alike have not been fully realised [1,2]. Interpersonal relationships, staff hiring processes and career trajectories are shaped by “gendered processes” leading to gender segregation in which male ascendancy in senior positions in the health system is favoured ([3], p. 10; [4]). In African and LMIC contexts, specifically, resources are scarce, and populations face a high burden of disease, which predominantly affects the health of women and children [5]. A lack of diversity in African and LMIC health leadership could affect population health outcomes given that women in leadership positions tend to implement policies that are more supportive of women and children’s health which is necessary for achieving gender equality goals [6]. Against this context, this paper presents a narrative review of the research around African and LMIC health leadership literature broadly and how gender and other social identities are discussed within it, more specifically. The purpose is to understand the research landscape of African and LMIC health leadership literature to establish how social identity fits into the discussion on leadership in these contexts and to propose future research endeavours that could support further research to understand the relationship between social identity and leadership. Given the limited literature on social identity and African and LMIC health leadership, this article first reviews the terrain of health leadership in these contexts more broadly, and then the main themes related to social identity from the literature are reviewed.

Health leadership has been deemed necessary in promoting health system strengthening [7,8], improving the district health system [9], re-engineering primary health care [10], supporting the move towards realising national health insurance [10], improving overall service delivery [11] and even, as integral in improving health outcomes [12, 13]. However, understandings of what leadership is and what it should look like in African and

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LMIC contexts are varied. The leadership literature makes the distinction between leadership and management in different ways. Leadership and management are either used interchangeably, considered as separate processes or, described as “two sides of the same coin”, which is to say leadership and management are related but somehow distinct ([14], p. 2).

According to Dorros ([15], p. 4), “management is a social discipline that deals with the behaviour of people and human institutions.” Kotter [16] posits that leadership is distinct from, yet complementary to, management. Management is involved in organising complexity to bring about order, while leadership is more about being adaptive and being able to deal with change. According to Daire, Gilson and Cleary [17], leadership is a “process of enabling others to work in a specific context” (p. 6). Kwamie [18] takes the leadership/management distinction further and posits that leadership often occurs at the policy level: the “remit of those at the strategic peak of the organisation,” and, those in management positions at the operational level are often concerned with operational inputs and outputs and less with creating an enabling organisational environment through long-term systems change (p. 849). Other theories around leadership suggest leadership is a collective product of leaders and followers [19]. This sentiment, which is echoed by Uhl-Bien [20], posits that leadership occurs between actors. Bolden [21] explored how leadership has changed over time. Initially, there was an insistence that leadership had to do with specific personality traits of one or a group of leaders, Bolden [21] concludes that a more contemporaneous understanding of leadership is leadership that is not bound to one person but rather a “group quality” ([22], p. 252).

Aligned most with Uhl-Bien and Bolden’s latter notions of leadership, the Alliance for Health Policy and Systems Research (AHPSR) proposed a strategy for strengthening the health system through adopting a participatory notion of leadership, wherein the participation of a diverse array of actors culminate to produce a strong and resilient health system [1]. The additional value of participatory leadership is that it encourages gender equality pursuits. The ambitions of the Sustainable Development Goals (SDGs) require participation from diverse health system actors with different perspectives to encourage creative innovation therefore, participatory leadership could also have the potential to provide space for women to flourish and play a role in policy agenda-setting. Creating opportunities for women to participate in leadership could have a significant effect on health system

functioning given the evidence that gender influences the inherent power structures within the health system [3], with consequences for service delivery, access, health workforce diversity and overall equality. The influence of gender on health leadership is pertinent now more than ever given SDG 5: “Achieve gender equality and empower all women and girls”, and sub-section 5.5 specifically: “Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life” [23].

As background and context for the work presented in Part C of this dissertation, the literature review presented here sought to pin down what strong and effective leadership might look like, how to sustain it and how identity and context tend to influence leadership in African and LMIC contexts with some additional lessons from the global health context. An explanation of the literature search strategy is presented first, followed by a discussion of the emerging and recurrent themes in the literature on health leadership in African and LMIC settings and, finally, recommendations for potential next steps to fill the research gaps around leadership and identity that Part C of this dissertation could fulfil.

### **Literature search strategy**

Relevant literature was identified by searching in specific academic databases, organisation websites, other search engines and reference lists, for use in this narrative review. The literature from databases and search engines were found through a broad search for literature on health leadership in LMIC settings. The reference lists of selected papers were used to find more research. The inclusion criteria were: all types of articles, including grey literature from organisation websites and Google, as well as books within no particular timeframe. The exclusion criteria were: articles, for which full text was not available, were not in English or were not written within either African or LMIC contexts<sup>1</sup>. Articles outside of the health sector were also excluded. Articles that did not mention a particular location but did discuss health leadership more generally were, however, included.

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<sup>1</sup> Although the context-focus of this narrative review is African and LMIC contexts, articles that were about gender and global health leadership were also included as the literature on gender and leadership in African and LMIC contexts is sparse. All articles exclusively from HIC contexts were excluded.

## Part B: Literature Review

The academic databases used to find literature were PubMed and Scopus and search engines such as Google Scholar, Google and the University of Cape Town (UCT) Library Primo. The two main phrases used to search for relevant literature were: “African health leadership”, and “low middle-income country health leadership.” These phrases were combined with search terms related to identity, namely: “social identity”; “gender”; “race”; “professional cadre”; “religion”; “ethnicity”; and “sex”. After trying many variations of search terms, it was concluded that specific searches on African and LMIC health leadership and social identity in combination with casting a wide net was the best-suited approach for this search strategy. This review, thus, consists of literature on African and LMIC health leadership in general as well as literature specifically about leadership and social identity within the same context.

After all relevant articles were found across the academic databases and search engines, the reference lists of these articles were tracked to find additional and pertinent literature. Additional literature was suggested by colleagues and was included if they met the inclusion criteria. Organisation websites such as African Leadership Forum, pages of the World Health Organisation website (<https://www.who.int/management/strengthen/en/>) and reports and research from the Alliance for Health Policy and Systems Research (AHPSR), Resilient and Responsive Health Systems (RESYST) and Research in Gender and Ethics (RinGs) were also used as supplementary resources to inform thinking on health leadership and management throughout this review.

After identifying papers relevant to this review, the titles and abstracts of included articles were copied into a table, and the critical characteristics of the article were written down. These characteristics included research context and the general themes covered (see Table 1 in the findings section below).



## Findings

After the initial search, 64 articles were determined to meet the inclusion criteria outlined above. After reading the full 64 shortlisted papers, a further 20 articles were excluded as they did not related to health, did not state the type of methodology that was used and therefore were deemed to be not robust enough or were written from a HIC context.

The remaining 44 articles are presented across four main sections. The first, second and third sections present the findings from the general search on African and LMIC health leadership. The fourth section presents the findings on the specific searches on social identity and health leadership also in African and LMIC settings. While the contextual focus of this literature review is LMIC and African health settings, the limited literature on gender and leadership in these contexts required the inclusion criteria to be also expanded to include literature on gender and global health leadership.

Of the 44 articles, 34 were qualitative studies, two were quantitative studies, six studies were mixed methods and two were literature reviews. The 44 articles span across 18 different contexts, which include Afghanistan, Cambodia, Cameroon, Ethiopia, Ghana, Kenya, Lebanon, Liberia, Nigeria, Pakistan, Rwanda, South Africa, Southern Sudan, Sri Lanka, The Gambia, Uganda, Zambia and Zimbabwe. Some studies are not bound by a specific context while others speak more broadly about Africa, Sub-Saharan Africa (SSA), LMICs or global health.

While the overall scope of work is broad, in many settings, the central theme in the included 44 articles was around the importance of health system leadership. Themes that were related to health system strengthening in general but were not specifically about leadership discussed the role of power in policy implementation [24], governance [25-27], human resources for health [28], people-centred health systems [29], understanding of the term resilience for health system strengthening and not specifically related to leadership [30], gender analysis for understanding the health system and not specifically related to leadership [3] and health system pedagogical approaches for health professionals not explicitly related to leadership [31]. These themes are not discussed further in this review as they do not directly relate to the purpose of the review - which is to understand the

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terrain and importance of health system leadership and specifically what effective health leadership looks like in LMIC and Africa contexts, as well as how identity is discussed within this terrain.

The broad themes identified as relevant to this review relate to 1) the importance of strong and effective health leadership for African and LMIC contexts; 2) the influence of context on African and LMIC health leadership; 3) the experiences and practices of African and LMIC health leadership from leaders; and, 4) the influence and role of identity on African, LMIC and additionally global health leadership. Table 1 (see below) demonstrates the scope and focus of all 44 articles, published between 2004 and 2019, according to broad themes and research contexts.

**Table 1** Themes and contexts of literature reviewed

| Themes related to health leadership  | Articles relevant to the theme  | Contexts of articles  | Notes on the theme   |
|--|---|---|--|
| The importance of strong and effective health leadership and how to sustain it | <ol style="list-style-type: none"> <li>1. Achievements and challenges in developing health leadership in South Africa: the experience of the Oliver Tambo Fellowship Programme 2008–2014 [32].</li> <li>2. Achieving the health Millennium Development Goals for South Africa: challenges and priorities [33].</li> <li>3. Balancing Management and Leadership in Complex Health Systems [18].</li> <li>4. Developing leadership and management competencies in low and middle-income country health systems: a review of the literature [17].</li> <li>5. Everyday Politics and the Leadership of Health Policy Implementation [34].</li> <li>6. Everyday resilience in district health systems: emerging insights from the front lines in Kenya and South Africa [9].</li> <li>7. Leadership and Governance within the South African Health System [10].</li> <li>8. Leadership and management training as a catalyst to health system strengthening in low-income settings: Evidence from implementation of the Zambia Management and Leadership course for district health managers in Zambia. [35].</li> <li>9. Leadership and the functioning of maternal health services in two rural district hospitals in South Africa [11].</li> <li>10. Leadership of Healthcare Professionals: Where Do We Stand? [36].</li> <li>11. Leadership styles and outcome patterns for the nursing workforce and work environment: A systematic review [12].</li> <li>12. Strategic leadership capacity building for Sub-Saharan African health systems and public health governance: a multi-country assessment of essential competencies and optimal design for a Pan African DrPH [37].</li> <li>13. Strengthening human resources for health through multisectoral approaches and leadership: the case of Cameroon [38].</li> <li>14. To what extent do site-based training, mentoring, and operational research improve district health system management and leadership in low- and middle-income countries: a systematic review protocol [39].</li> </ol> | Africa, Cameroon, Kenya, LMIC, South Africa, SSA, Zambia.       | This theme unpacks the definition of, and need for, effective health system leadership, how to ensure that it occurs and how to sustain it. The latter makes direct reference to the current research on leadership training and development in LMIC contexts.                               |
| The influence of context on health leadership                                  | <ol style="list-style-type: none"> <li>1. Examining clinical leadership in Kenyan public hospitals through the distributed leadership lens [40].</li> <li>2. Experiences of leadership in health care in sub-Saharan Africa [41].</li> <li>3. Leadership styles in two Ghanaian hospitals in a challenging environment [42].</li> <li>4. Strengthening health system leadership for better governance: what does it take? [19].</li> <li>5. The health and health system of South Africa: historical roots of current public health challenges [43].</li> </ol>   | Ethiopia, Ghana, Kenya, Lebanon, Liberia, Rwanda, South Africa. | This theme addresses the concept of context and how the literature presents this concept. References to “culture” in the literature refer to the organisational culture, which this paper identifies as a contextual factor. It also presents context as a significant influence on leaders. |

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|---|---|---|---|
| The experiences and practices of health leadership from leaders     | <ol style="list-style-type: none"> <li>1. Advancing the application of systems thinking in health: South African examples of a leadership of sensemaking for primary health care [44].</li> <li>2. Enabling relational leadership in primary healthcare settings: lessons from the DIALHS collaboration [7].</li> <li>3. Leadership styles of medical professionals [45].</li> <li>4. The relationship between resilience and empowering leader behaviour of nurse managers in the mining healthcare sector [46].</li> <li>5. The role of leadership in HRH development in challenging public health settings [47].</li> <li>6. The role of leadership in people-centred health systems: a sub-national study in The Gambia [48].</li> <li>7. Using diaries to explore the work experiences of primary health care nursing managers in two South African provinces [49].</li> <li>8. What Governs District Manager Decision Making? A Case Study of Complex Leadership in Dangme West District, Ghana [50].</li> <li>9. Does identity shape leadership and management practice? Experiences of PHC facility managers in Cape Town, South Africa [51].</li> </ol>  | Afghanistan, Ethiopia, Ghana, Liberia, Pakistan, Rwanda, South Africa and Southern Sudan, SSA and The Gambia. | This theme discusses the practices and experiences of leadership from or about leaders and managers in LMIC and African contexts.   |
| The influence and role of identity on health leadership and leaders | <ol style="list-style-type: none"> <li>1. Gender is not even a side issue... it's a non-issue': career trajectories and experiences from the perspective of male and female healthcare managers in Kenya [52].</li> <li>2. Gender stereotypes and inequities in health care leadership perceptions and experiences of senior managers In Nigeria [53].</li> <li>3. Increasing Women in Leadership in Global Health [54].</li> <li>4. Intersectionality and global health leadership: parity is not enough [55].</li> <li>5. Intersectionality of gender and health systems' leadership in low and middle-income countries [56].</li> <li>6. Leadership experiences and practices of South African health managers: what is the influence of gender? -a qualitative, exploratory study [14].</li> <li>7. Race trouble: Experiences of black medical specialist trainees in South Africa [57].</li> <li>8. Reasons behind current gender imbalances in senior global health roles and the practice and policy changes that can catalyse organisational change [4].</li> <li>9. The Leadership Gap: Ensuring Effective Healthcare Leadership Requires Inclusion of Women at the Top [58].</li> <li>10. The ripple effect: why promoting female leadership in global health matters [6].</li> <li>11. The role of women's leadership and gender equality in leadership and health system strengthening [59].</li> <li>12. Why are fewer women rising to the top? A life history gender analysis of Cambodia's health workforce [60].</li> <li>13. Why aren't women rising to the top? [61].</li> <li>14. Women in healthcare: barriers and enablers from a developing country perspective [62].</li> <li>15. Women leaders in global health [5].</li> <li>16. Working long hours and its impact on family life: Experiences of women professionals and managers in Sri Lanka [63].</li> </ol> | Cambodia, global health, Kenya, Lebanon, LMIC, South Africa, Sri Lanka, Uganda, Zambia, Zimbabwe.             | This theme addresses all forms of identity identified in the literature. The forms of identity include both professional identity and social identities. The social identities explored in the literature include gender, race, ethnicity, religion, and professional cadre. There is also some discussion on the presence and influence of multiple social identities as an influence on leadership. |

### **The importance of strong and effective Leadership for African and LMIC health systems and how to sustain it**

Across the literature, strong and effective health leadership and management are argued to have the potential to influence population health outcomes [35]. Inadequate health leadership and management could, meanwhile, impact effectiveness, efficiency and quality of service delivery, with negative consequences for service utilisation with the potential to impede overall health system functioning [32, 39]. African and LMIC health systems are especially in need of strong leadership and management, given that these settings are often plagued by limited resources and a high burden of disease [17, 18]. The problems that led to SSA not meeting the Millennium Development Goals (MDGs) in 2015 were and still are, multifaceted. However, most prominently identified in this literature was the lack of strong and effective leadership and the need for leadership in meeting the global goals specifically related to health [33]. Strong and effective leadership refers to leadership that can withstand challenges and chronic stresses common within African and LMIC health systems [9]. The words *strong* and *strength* are also used to refer to the desired state of the health system and the need for leadership to achieve this state [9, 11]. *Effective* or *effectiveness* can also describe the desired state of health services and the need for leadership to achieve this state [9].

It is argued in the literature that good leadership and management competencies are necessary to establish and support health systems that are capable of meeting the health needs of a given population especially in LMIC healthcare settings. Given the constraints noted above, it also requires innovative and adaptive leadership [18]. Kingue et al., [38] argue that leadership is necessary for proper coordination and communication between different stakeholders in the health system and could be similarly crucial for other LMIC health system contexts. Leadership should capitalise on the diversity of the health system and foster relationships using proper coordination and communication that encourage greater participation in leadership [11, 12, 34, 35]. Furthermore, health systems in LMIC contexts need the joint operation of both leadership and management at various levels to help strengthen it [18]. The literature identified the need for leadership development approaches that

foster sustained strong and effective leadership, and one such approach is training and continuous education.

Training and continuous education, as well as role models and mentors, were identified in the literature as necessary in developing leadership and management capacity [10, 35, 39]. Currently, health professionals are commonly enlisted as managers and leaders because of their clinical skills. They are then expected to build management and leadership competencies through training and attending short courses after being hired, but these competencies are predominantly gained on the job through experiential learning [17]. Beyond site-based training, sustained and peer-to-peer mentoring is also noted in the literature as an essential intervention for leadership development [37]. Moreover, leadership development can be achieved through leadership support interventions such as on-site training [5, 22] in combination with class-based leadership training. However, the literature also suggests that leadership development initiatives need to take into account the importance of context. Improving leadership and management to produce a sustained stream of strong and effective leaders will require the development of a complementary organisational context [18]. While negative leadership practices are noted to thrive in current health system contexts [28] thus hinting at the importance of understanding the role that context plays.

### **The influence of context on health leadership**

According to Gilson and Agyepong, leadership training alone is not enough. It is also necessary to develop an organisational context that sustains leadership practices that work to “change the context from within” and challenge current negative leadership practices ([19], p. ii2; [41]). Additionally, to change the context internally, there should be careful consideration of larger contextual dimensions: historical, political and socio-cultural [43]. All of which is argued within the literature to influence the organisational context. The way forward for leadership development that nurtures strong and effective leaders includes understanding the various dimensions of context likely to influence leadership.

Often medical professionals are making on-the-ground decisions, which are informed by “collegial mechanisms” that are constrained by, or dictate the organisational culture ([40], p. ii28). In Kenya, for example, leadership practices in hospital contexts were influenced and constrained by values, norms, structures and culture creating inherent power dynamics and inter-professional relationships affected leaders’ ability to challenge the status quo ([40], p. ii27). This is an example of how managers’ values, aspirations and behaviours become the basis for the organisational culture of *how we do things around here* ([42], ii17).

### **The experiences and practices of African and LMIC health leadership from leaders**

In addition to the contextual factors influencing leadership practice, also identified in the literature are the first-hand perspectives of leaders’ and their experience and practice of health leadership in LMIC contexts. The literature on the experiences and practices of leadership at both primary health care (PHC) and district levels in LMIC contexts demonstrate the importance of having:

- Shared values [7, 44, 45];
- Teamwork and relationships [47, 48, 49] and;
- Self-managing qualities, such as personal resilience [46, 51].

The literature argues that health system strengthening is influenced by collaborative engagement among different stakeholders throughout the health system, working towards a shared goal, which is guided by values. Meanwhile, traditional hierarchical authority structure is evidenced to constrain the decision space [50]. In addition to expanding leadership and the decision space, the literature also discusses the importance of self-management. Self-management refers to knowing one’s limitations, managing emotions and being open to relying on team members to fill in the gaps [51]. An example of a self-managing quality is personal resilience. There is a relationship between individual leader resilience and empowered leaders’ behaviour. Unlike health system resilience, personal resilience resides within people.

In a study on nurse managers in the mining health care sector in South Africa [46], leaders who were identified as resilient were also perceived to be better leaders according to fellow team members.

### **The influence and role of identity on health leadership**

Among the 44 articles included in this review, 16 articles provided evidence on identity and leadership in African, LMIC and global health settings. The identities below - identified in the literature - are gender, race, ethnicity, religion and professional cadre.

#### ***Gender and leadership***

Women's participation in the health system is a global goal [52-54, 59]. Therefore, female representation in health leadership is essential to meeting this goal. However, there are barriers to women's advancement in health leadership. Barriers that prevent women from gaining access to upper management and leadership positions are multiple. The key barriers are argued to be bias and discrimination related to gender roles, norms and expectation [4, 53, 60, 61], limited mentoring and guidance [14], peer-to-peer support, balancing career and family responsibilities [60, 61] all of which are "bottlenecks and hurdles that stifle growth and limit advancement" for women into leadership positions across occupations ([5], p. e565; [6, 58]). Successful transformation of the health system requires the inclusion of women in top management positions and their involvement in policy formulation [58]. Three country examples provide evidence of the challenges and necessary responses.

In Cambodia [61] at the macro level, the bias in society and social norms have resulted in male ascendancy in leadership in the health system, and this has encouraged a male perspective on leadership. At a meso level, then, women are expected to juggle the work-life balance, and there is limited support from male colleagues. The micro-level shows that women also lack the qualifications and competencies needed for leadership because they have been hindered by Cambodian society or previous cultural norms that influence perceptions around gender [60, 61]. These authors argue that, therefore, at a macro level, bias toward male-centric leadership should be addressed.



Governance structures should become more gender-sensitive, and there should be support from male superiors at a meso level. While at the micro-level, family support, capacity building and training should be encouraged for women to be able to reap successes in their career advancement [60, 61].

In Sri Lanka, meanwhile, women must straddle the duelling identities of masculinity and femininity [63]. When taking up management positions, it is described as necessary to “behave like men” or be deemed “unfit for the job” however in so doing women risk losing their femininity ([63], p. 110). This example highlights the social norms constructed around the concept of power that manifests in the organisational structure and organisational culture. Women are encouraged to enact the masculine notion of management to secure their position, which includes working long hours, therefore, impacting their family life [63]. From the evidence above, gender plays an explicit role in the career trajectories and leadership experiences of women in particular.

A study in Kenya noted that gender was not explicitly cited as a problem for women in their career trajectories into senior management positions [52]. Participants remarked that gender was a “non-issue” [52]. However, there were gendered factors such as the responsibility of childcare and domestic expectations that fell on women and stood to impact their career trajectories [52]. Therefore, even when gender is deemed a “non-issue”, there are still implicit gendered factors that influence the leadership experience of women.

Within the limited literature on gender and leadership, six studies explored the influence of two or more social identities on leadership. While two additional studies [55, 56], explore the need to understand the influence of multiple social identities intersecting with gender specifically producing barriers for different kinds of women. The findings in these two studies [55, 56] indicate that gender parity cannot solely be the driver, as gender often does not act alone and explicitly call for the use of intersectionality to understand the influence of gender. However, all eight studies provide evidence

on the intersection of gender with other social identities and its impact on the pathways into, and experiences of, leadership for different women.

### ***Ethnicity, Religion and gender***

The article below identifies the influence of ethnicity, religion and gender as it coalesces and thereby creates barriers for the career advancement of females in Lebanon [62]. Within this Middle Eastern context, discrimination is influenced by the patriarchal nature of the society, which created barriers for female career advancement [62]. This study identified the political and social influence over organisational culture in creating barriers that mirror the greater social landscape. The women who secured management positions showed the necessary persistence and agency needed in negotiating a place of seniority [62]. Muslim communities in Lebanon are said to be more conservative and traditional than Christian communities. Therefore, for women in these communities, religion also intersects with gender, creating greater constraints for Muslim females to pursue paid work compared to Christian females who are said to belong to a “relatively more liberal” society ([62], p. 27).

### ***Race and gender***

Meanwhile, in exploring the experiences of black registrar doctors in training in South Africa, evidence of “everyday racism,” the negative effects of tokenism and institutionalised racism was identified. Participants viewed the organisational culture to be influenced by both gender and racial bias ([57], p. 4). Black female doctors in this study experienced stigma for being black and female, separately, noting that two of their identities were at odds with the concept of the “ideal doctor” ([57], p. 5). The continuation of this kind of organisational culture will, as the authors posit, limit job satisfaction for a majority of the health workforce (black females) in South Africa and thereby discourage health leadership diversity.

### ***Professional cadre and gender***

The professional hierarchy that exists within the health system only further exacerbates the influence of race and gender. Across the literature, two papers discussed the influence of gender intersecting with professional cadre. The first paper discusses these social identities in relation to the experiences of women in gaining access to leadership positions in Nigeria [53]. The second paper explores the leadership experiences and practices of South African health managers and the influence of gender on professional cadre [14].

While in the Nigerian study [53], professional hierarchy played a defining role in health leaders' appointments, with leadership positions often filled by medical doctors and, given the gendered nature of the medical profession, doctors were often male [53]. Furthermore, doctors – who were deemed higher up on the professional hierarchy – did not want to be led by managers who were from “lower professions” [53]. There was a similar experience for participants in a study on the leadership experiences and practices of senior district managers in South Africa [14]. Many participants had a non-linear career path with doctors having a much more direct path into management positions compared to nurses [14]. Nurses were also predominantly female, which again speaks to the intersection between professional hierarchy and gender. For nurse facility managers in South Africa, the inherent professional hierarchy made managing doctors and pharmacists challenging [14].

### **Conclusion**

This narrative review of African and LMIC health leadership identifies the main themes of the relevant literature around health leadership in these, often resource-poor, contexts. In summary, the literature suggests that health systems need:

- Strong and effective leadership that can withstand constant and routine challenges and champion action with limited resources through leveraging input from diverse and currently underrepresented stakeholders.
- Leadership development nurtured through a combination of class-based and on-site leadership and training to support the career advancement of diverse and currently underrepresented stakeholders, that is conscious of the influence of interacting structural barriers, organisational culture and broader social contexts;
- An open decision space that prioritises relationships and multiple levels of collaboration in and out of the health system through participatory leadership;
- A more in-depth exploration into the barriers that stifle career advancement for women and other underrepresented stakeholders in health leadership in African and LMIC contexts and the influence of intersecting social identities that may create further hurdles for these stakeholders.

The body of literature presented here, on African and LMIC health leadership, shows that individuals drive the experiences and practices of leadership. It is evident too from the literature that among the main influencers of individuals and their behaviour is social identity and, but moreover, how social identities coalesce within a particular context.

However, as the review also shows, there is currently limited health leadership literature that explores the influence of social identity in African and LMIC contexts, by researchers from African and LMIC contexts. There is even less literature that explores the influence of intersecting social identities, as multiple interlocking systems of power, on health leadership from these perspectives.

Nonetheless, the existing literature still provides some evidence for the “spillover effect” of socially constructed expectations and roles in the health system that negatively influences the leadership

experience and career trajectory of women specifically ([62], p. 81). The review also found that gender intersects with race, ethnicity, religion and professional cadre to further influence the female leadership experience in different health system contexts.

Multiple factors reveal a need for further research on social identities as they “intersect at the micro-level of individual experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level” [64]. These factors include the stated ambition of SDG 5.5 as well as the current gap in African and LMIC health leadership literature. The need for this research has also been shown by the revelation of the definitive role that context and leaders play on leadership practices and experience. This is especially pertinent if the diverse experiences of women are to be understood [23].

An intersectionality approach specifically argues that multiple social identities intersect to produce unique systems of either privilege or oppression. This approach has the potential to offer a robust understanding of the underlying obstacles to participation in leadership for women holding different types of social identities and for the influence of contextually bound social structures. Currently (2018), no study has explicitly used an intersectionality approach to understand the diverse experiences of women in health leadership in African and LMIC contexts and the systems and structures of power that create and perpetuate privilege and oppression [56].

Discussions around gender intersecting with other social identities and its influence on leadership in health systems have, moreover, focused mostly on the experiences of leaders in high-income countries [1, 2]. The literature review also indicates that within LMIC countries there is a need for diverse stakeholders in creating strong and effective health systems leadership [1]. Therefore research on the barriers of underrepresented stakeholders in health leadership should be explored, which includes identifying the influence of intersecting social identity on the career advancement of different women and the contextually relevant social-structural factors which drive micro-level individual experience [64].

Given these findings, and the overall scarcity of literature in this area, there is an urgent need for a more in-depth intersectional analysis of leadership experiences in LMIC and African contexts alike [14, 52]. An analysis of that nature could support efforts towards gender equality in health leadership that take into account the influence of organisational and social contexts. Further, such an analysis could identify current barriers to achieving effective leadership as well as the processes needed to enable true participatory leadership that creates equal opportunity for diverse actors to be involved in the overall leadership of the health system. Additionally, exploring the use-case of an intersectional approach to health leadership research could influence how to approach all health leadership areas of focus given that “leadership essentially resides in people [and] social identities are among the multiple influences that impact on leadership behaviours and experiences within the health system” [14].

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## PART C: Journal Article

### Leave no woman behind: an intersectionality approach to exploring the leadership experiences of female health system managers in South Africa

Target Journal: International Journal for Equity in Health<sup>1</sup>

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#### Abstract

**Background:** Across health systems, gendered processes have contributed to the underrepresentation of women in leadership positions. However, it would be an oversimplification to assume all women in leadership positions have had to overcome similar obstacles. Therefore, this study explores the influence of social identity, intersecting social identities and related interlocking systems of power and privileged on the experiences of women in leadership. It draws on data from a primary study on gender and leadership in South Africa. The primary study noted that black women felt as though they were “left behind” at various junctures in their careers. This study aims to explore how gender, race and professional cadre intersect at the micro-level of individual leaders’ experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level.

**Methods:** This study used an intersectionality analysis approach that incorporated inductive coding and deductive thematic analysis. This approach assessed specifically 1) how gender, race and professional cadre inform each participant’s account individually and 2) how gender intersects with other social identities across all interviews.

**Results:** An overall insight is that regardless of whether the influence of gender on individual experience is analysed discretely or together with other social identities, multiple micro (i.e. social locations) and macro

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<sup>1</sup> Submission guidelines for International Journal for Equity in Health in appendix 2.

<sup>2</sup> For the purpose of this dissertation, the student is the sole and first author of this journal article.

(i.e. policy and history) factors intersect to influence that experience. Three key insights that emerged from the analysis is 1) gender often intersected with race and/or professional cadre in ways that influenced the leadership experience of black nurses most notably. 2) Gender intersected with race most intensely during apartheid for black women and affected the linear career progression of these women, while, post-apartheid, one white woman noted that her race and gender affect her career. 3) The professional hierarchy is gendered and influenced by race – historically, doctors who are predominantly male and/or white take up senior management positions. Additionally, power structures influence the interplay between micro-level factors, such as individual experiences of intersecting social identities, and macro-level factors, such as South Africa's history and the Employment Equity Act of 1998 (implemented as a means to support redress).

**Conclusion:** The use of an intersectionality analysis in health policy and systems research can be used to explore the barriers to representation within the system and is an essential step towards ensuring that no one is left behind. As shown here, it provides the needed analytical basis to support transformation in the composition of health leaders better to represent society at large.

**Key words:** Gender, race, professional cadre, leadership, management, intersectionality, HPSR, health systems, participatory leadership.



## Background

The World Health Organisation (WHO) identified leadership and governance as one of the six fundamental building blocks needed for strong and resilient health systems [1]. Effective health leadership has the potential to influence population health outcomes [2]. In contrast, poor health leadership is noted to affect service delivery and may even impede the overall functioning of the health system [3]. African and low-and middle-income country (LMIC) health systems are especially in need of effective leadership, given that these settings have limited resources and a high burden of disease [4]. Moreover, one key cause of Sub-Saharan Africa (SSA) not meeting the Millennium Development Goals (MDGs) in 2015 is, arguably, ineffective leadership [5, 6]. Now that the world is striving to meet the Sustainable Development Goals (SDGs), effective leadership is a core strategy for health system strengthening and fostering sustainable development overall in LMIC and African health systems [1, 7].

In 2007, a WHO report [1] declared that health system strengthening is “everybody’s business” and this sentiment foreshadowed the Alliance for Health Policy and Systems Research (AHPSR) 2016 Flagship Report on participatory leadership for health [7]. The Flagship Report called for the empowerment of diverse groups who are enabled to contribute to the activities and functioning of health systems. The SDGs provide the “framework for such integrated leadership, with co-benefits spreading across different domains of development” ([7], p. 18). The Flagship Report proposes that a participatory approach to leadership has the potential to offer strategies for improving and strengthening health systems to meet the SDG targets. Through the engagement of diverse stakeholders within the health system and beyond, participatory leadership encourages collaboration of currently or previously underrepresented stakeholders, such as women, to address the complex challenges endured by health systems with limited resources such as those in LMICs as well as African contexts. The inclusion of diverse stakeholders, and in particular women, in leadership has the potential to provide innovative, viable solutions for sustainable development in the health system [7].

Beyond the realm of participatory leadership, gender equality has also rightfully gained global prominence in discourses around leadership development in health systems [8-10]. SDG 5.5 seeks explicitly to: “ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life” [11]. Significant efforts such as the WHO Global Strategy on Human Resources for Health: Workforce 2030, the United Nations (UN) High-Level Commission on Health Employment and Economic Growth, and Women in Global Health have also recognised the need for gender equality in health leadership. These efforts are necessary to combat gender inequality in human resources related to appointments, training and opportunities and for developing enabling processes that invigorate participatory leadership for health - as noted, the leadership approach aligned with the SDG vision. The literature on health leadership in African and LMIC contexts also supports the need to pursue gender equality. This is evident in the growing body of health policy and systems research (HPSR) work that implements a gender lens [12-15]. This work has established that individuals exercise leadership and social identity such as gender, can influence the behavior and the decision-making power of individuals. Therefore, gender – a key social stratifier - is complicit in leadership practice and experience.

In this paper gender<sup>3</sup> is conceptualised as the “socially constructed roles, behaviours, activities and attributes [that] affect how people live, work and relate to each other at all levels [in society], including within the health system” ([16] p. 2). With this definition, gender is thus considered to influence expectations around behaviour, perceptions of others, and the roles and possibilities available to individuals. The health system exists within this social context, therefore even seemingly gender-neutral health system concerns such as leadership, are implicitly influenced by gendered norms and values [12, 17]. Gendered norms, rules and customs also place an (often) unequal burden of domestic responsibility - such as childcare - on women. In response to these gendered norms, women must shift or adjust themselves to fit in or even compromise professional pursuits. In a study undertaken in Zimbabwe, gendered norms were noted to shape access to employment for men and women based on what was deemed acceptable or feasible for

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<sup>3</sup> Gender will be considered in the binary terms of men and women as the participants only expressed themselves as such.

either gender to pursue, and women were more likely to resign from work to relocate for their husbands' careers [12].

The literature on gender and leadership in LMIC and African settings has also begun to note the influence of multiple, intersecting identities on the leadership experience of women. While there is still limited literature that explicitly uses an intersectionality approach to explore LMIC and African health leadership [18], the little available literature does indicate that gender tends to intersect with other social identities. Current literature identifies the impact of pathways into, and experiences of, leadership for women of different races [13, 19], professional cadres [13, 14], and ethnicities [20] at the “micro-level of individual experience to reflect multiple interlocking systems of privilege and oppression at the macro, social-structural level (e.g., racism, sexism, heterosexism)” [21]. Intersectionality offers a framework that challenges traditional understandings of gender analysis [12, 22-24]. An example from a study in the Middle East identified the influence of race and ethnicity on gender, thereby creating limitations for women from different religious groups. This example shows the dynamic interplay between micro-level and macro-level factors in a real-world context. The study identified that religion intersected with gender, further limiting opportunities for Muslim women to pursue paid work in comparison to Christian women who, according to the study, were described as belonging to a “relatively more liberal” society [20]. In the above example, gender and religion are mutually constituted and intersect in dynamic and interactive ways, thereby influencing the lives of Christian and Muslim women differently [12].

The study reported here - using primary data collected in a larger qualitative study on gender and health leadership in South Africa – employs an intersectionality approach to assess how social identities and intersecting social identities influence the professional and personal experiences of current female<sup>4</sup> health system managers. The influence of intersecting social identities is especially relevant in the context of South Africa – a country where race and gender were tools used to propagate the racist and sexist agendas of the

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<sup>4</sup> Another core tenet of intersectionality is its focus on the intersecting identities of people from historically oppressed and marginalised groups such as racial/ethnic minorities, women and children. Therefore with this study on gender and leadership, the starting point will be to explore the experiences of female managers [22]. Focusing on females is an appropriate starting point, given the limited research conducted using an intersectional approach in understanding gender and leadership in LMIC. Therefore the purpose of this study – in part - is to provide descriptive data on the use-case for an intersectionality approach.

apartheid state [25]. Socially constructed hierarchies related to gender and race were reinforced through the political, economic and land restriction policies, which significantly affected the organisation of social life, including the fragmented development of human resources for health [25, 26]. While racial and gender oppression has been dismantled legally since the end of Apartheid, and access to employment across sectors was improved through the employment equity policy, the de facto difference of experience for people of different races and genders still exists even two decades after apartheid [25]. Moreover, given the implication of both gender and race in South Africa, intersectionality provides a reframing of how gender is understood and “how gender and other social stratifiers are mutually constituted and intersect in dynamic and interactive ways” ([12], p. 2; [21, 27]). An intersectionality approach is, however, undertaken not merely to show who is worse off in society, but rather to reveal meaningful distinctions and similarities. More than “just an exercise in semantics,” intersectionality can provide HPSR with a framework for understanding gender and how it relates to health leadership ([21], p. 1267] as well as the social-structural inequalities such as sexism and racism that shape the micro-level gendered experience.

These insights have the potential to assist in addressing discrimination and putting conditions in place for diverse people to have access to decision-making space or leadership opportunities that create access to decision-making space. Qualitative research using intersectionality can also promote greater participation in leadership by exploring how power relations and inequities are influenced by macro-level forces that manifest within the health system in order to develop socially just policies, services, and outcomes for all people. In order to understand the barriers for different women (within the contexts in which they work), an intersectional analysis of the influence of gender on the experiences of current female managers can help explore the barriers faced in the career trajectories of these female leaders [18]. In addition, it is an opportunity to establish a use-case for intersectionality in understanding diverse gendered experiences in HPSR.

The methods section below first provides information about the primary study and then presents the research design of this analysis, including the limitations. Examining South African health leadership

experiences, the findings section considers the: 1) influence of gender; 2) influence of race; 3) influence of professional cadre; and 4) additional intersectional issues, such as race and professional cadre that influence gender. The implications of these findings, especially those related to the complex entanglement between social identities, for being a woman in health leadership, are presented in the discussion section. Finally, the article concludes with remarks on the potential for how and when to use the intersectionality approach in future HPSR and how this kind of research can build on efforts that promote greater participation in leadership.

## **Methods**

### **Primary study**

The primary study interviewed 19 purposively selected senior health managers (see Table 1). The primary study noted that gender, race and professional cadre were concurrent influences on health managers' leadership experiences and practices. Additionally, managers commented on the leadership practices and experiences of other leaders and in that commentary, there was also mention of race, gender and professional cadre, providing further insights into the interplay between social identities and health leadership. The health managers' retelling of their educational pathway into healthcare and their career trajectories toward leadership positions were also said to be influenced by gender, race and professional cadre. Furthermore, these social identities intersected to create unique experiences affecting pathways into and out of educational pursuits and leadership positions. The primary study concluded that the intersection between gender, race and professional cadre is one of many factors, which influence who takes up management positions in the South African public health sector currently [13]. In response to the recommendations of the primary study, this study re-analysed the primary data to investigate further how gendered experiences of leadership are influenced when intersecting with other social identities. Similarly to the primary study, the data are anonymised in terms of person and place.

**Table 1** Participant summary

| Participant number | Sex    | Age | Race <sup>a</sup> | Position at the time of the primary study | Years in current position | Professional Background           | Years in management |
|--------------------|--------|-----|-------------------|---|---------------------------|-----------------------------------|---------------------|
| 1                  | Female | 54  | Black             | Deputy Director                           | 4                         | Professional Nurse                | 11                  |
| 2                  | Female | 40  | White             | Deputy Director                           | 6                         | Professional Nurse                | 6                   |
| 3                  | Female | 57  | White             | Director                                  | 12                        | Professional Nurse                | 30                  |
| 4                  | Male   | 41  | White             | Medical Manager of Hospital               | 8                         | Medical Doctor                    | 8                   |
| 5                  | Female | 45  | White             | Deputy Director                           | 4                         | Occupational Therapist            | 10                  |
| 6                  | Female | 61  | White             | Director                                  | 3                         | Medical Doctor                    | 20                  |
| 7                  | Male   | 60+ | Black             | District Director                         | 5                         | Medical Doctor                    | 20 years +          |
| 8                  | Female | 49  | Black             | Director                                  | 7                         | Medical Doctor                    | 10                  |
| 9                  | Female | 50+ | Black             | District Director                         | 5                         | Professional Nurse                | 15 years +          |
| 10                 | Female | 48  | Black             | Director                                  | 5.5                       | Registered Nurse                  | 5.5                 |
| 11                 | Male   | 62  | Black             | Director                                  | 17                        | Environmental Health Practitioner | 30                  |
| 12                 | Female | 60  | Black             | Director                                  | 9                         | Professional Nurse                | 18                  |
| 13                 | Female | 56  | Black             | Director                                  | 3                         | Professional Nurse                | 16                  |
| 14                 | Male   | 67  | Black             | District Director                         | 12                        | Medical Doctor                    | 12                  |
| 15                 | Female | 48  | Black             | Deputy Director                           | 1                         | Professional Nurse                | 11                  |
| 16                 | Female | 49  | Black             | Chief Director                            | 2                         | Professional Nurse                | 11                  |
| 17                 | Male   | 48  | Black             | Assistant Director                        | 1                         | Professional Nurse                | 17                  |
| 18                 | Female |     | Black             | Director                                  | 10                        | Professional Nurse                | 20                  |
| 19                 | Female | 53  | White             | Deputy Director                           | 3                         | Professional Nurse                | 17                  |

<sup>a</sup> According to the Employment Equity (EE) Act, black refers to citizens of “African, [Mixed-race] and Indian” descent, and white refers to citizens of European descent [28]. While the primary study refers to participants as either black or white - which is consistent with the EE Act and the racial terms that are in everyday use in South Africa - this does not imply acceptance of racial attributes [13]. The racial terminology used in this study will remain consistent with the terminology used in the primary study and the EE Act. This study also does not suggest the acceptance of particular attributes. The need to analyse experiences according to race is necessary when applying an intersectional lens in a South African context because this context has an entrenched history that segregated populations according to specific racial categories [25]. Inherent in an intersectional approach is the consideration of intersecting identity with historical, social and cultural contexts [29, 30].

## Research design

The qualitative data collected on gender and leadership in South Africa were analysed using Bilge’s [31] two-step intersectionality approach. This analysis approach first applies inductive coding and then considers generic questions about social identity, asked in a particular order. Fig 1 provides a visual summary of the two-step approach and Table 2 includes the general questions used in step two to guide the intersectional analysis (see below).

Reflexivity is a central component of an intersectional approach [22] and therefore as a resident and national of South Africa and woman of colour, the analysis was conducted with background and personal knowledge of the social nuances present in South Africa. While this positionality assists in understanding the context, the analysis was also conducted with the explicit objective of avoiding assessing individual accounts as representative of a particular social identity based on this contextual familiarity.

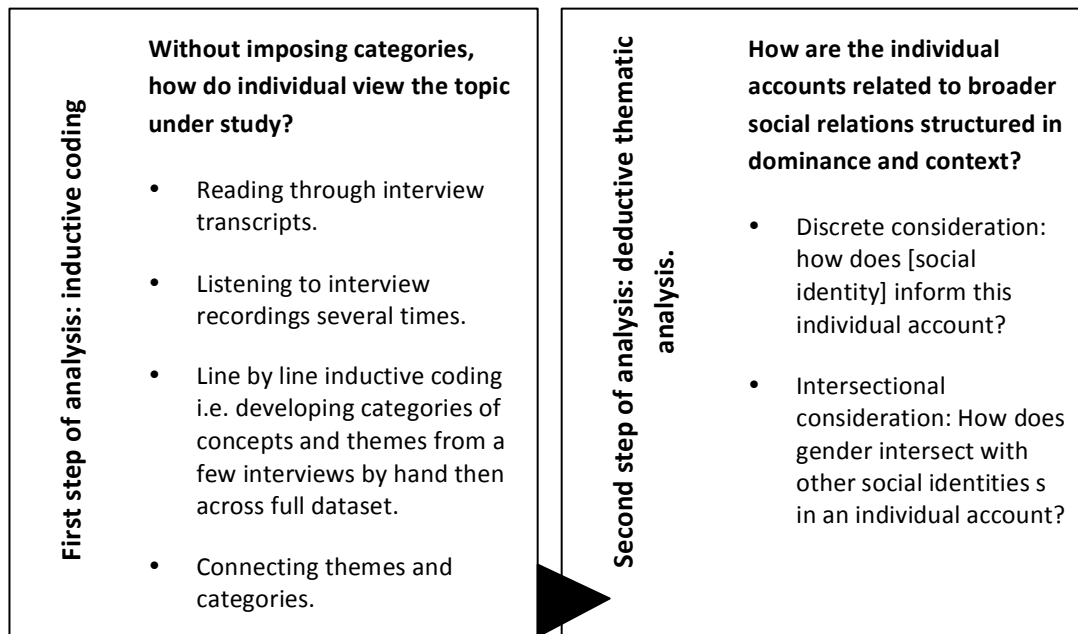


Fig 1 Bilge's two-step intersectionality analysis approach (adapted from Rodriguez, [32])

### ***Step one: Inductive coding***

The first step began by purposively selecting five interviews and broadly coding each by hand to develop the initial codes inductively. These five interviews were selected to reflect the diversity of the primary study participants (i.e. in race, gender and professional cadre). Recurring codes established from the five interviews were recorded then all 19 interviews (including the initially coded five interviews) and these initial codes (each with a description) were loaded onto Nvivo 10. The full set of 19 interviews (including the five that were coded by hand) were then subject to coding in Nvivo 10, with additional codes and descriptions added as they were discovered in the data. Once all 19 interviews were read and coded, the codes were exported into an Excel database and organised into themes. Among these new codes included ones related to gender, race and professional cadre and even the intersection of these identities. Other new codes included “family,” “employment equality,” “South African context,” and “role of mentors and allies.”

### ***Step two: deductive thematic analysis***

The questions under the discrete consideration (see Fig 1 above, Table 2 below) were used to analyse how gender, race and professional cadre discretely (i.e. individually) informed the accounts of the 14 female managers. All quotes related to these three social identities that were identified in step one, were subject to a line-by-line analysis with careful consideration not to make assumptions based on the particular social

identity to which each participant belonged. This step of the analysis was guided by the strategies of thematic analysis [33], and emergent themes were organised accordingly.

**Table 2** Generic discrete and intersectionality questions [31].

| Social identity Categories | Discrete Consideration                                      | Intersectional Consideration   |
|----------------------------|---|--|
| Gender                     | How does gender inform this individual account?             | How gender interacts/intersects with other social identity categories in this individual account? Or which dimensions of the experience are interacting with gender? |
| Race                       | How does race inform this individual account?               |  |
| Professional cadre         | How does professional cadre inform this individual account? |  |

Following this, the questions under the intersectional consideration (see Fig 1, Table 2) were applied to analyse how social identities inform the female leadership experience, specifically. The analysis assessed how participants spoke about gender as it intersects with race and professional cadre. Data that mentioned the influence of two or more social identities as influencing the female experience and their experience of, or career trajectory into, leadership were re-analysed.

During the inductive coding, some of the male participants provided rich insights into female leadership experiences, and therefore all reference to female experience from male participants was included in the analysis in this step. The broader social South African context and how participants expressed experiences around history, power and affirmative action were acknowledged.

## Limitations

The primary research did not set out to pursue an intersectionality analysis. Therefore, there might have been new intersectional identities at play in the participants' experiences, which were not probed in the data collection phase of the primary study. For this analysis, a specific challenge was the risk of over-interpretation or misinterpretation in considering social identities when participants did not make explicit mention of them. To mitigate this potential risk, only instances where participants made explicit mention of the impact of a particular social identity were included. The trade-off is that there were less available data to



be analysed. Although intersectionality states that no single issue affects an individual's experience, the two-step approach illustrates that even when social identities are discussed or analysed discretely multiple factors – both micro and macro – are always implicated. While the inclusion of the discrete consideration may be deemed a limitation, this approach allowed for implicit experiences of intersectionality to be made explicit by analysing experiences influenced by gender, race and professional cadre discretely and then using those findings to better inform and understand the intersectional experiences. This is evident in the repetitive findings. Finally, while this secondary analysis did deepen the original work by explicitly using an intersectionality lens, a primary study with a focus on intersectionality might unearth novel themes.

## **Results**

The data show that issues related to social identity and leadership experiences are raised across the interviews. The social identities primarily discussed are gender, race and professional cadre, as well as the intersection of these three identities. The history of South Africa, the inherent power dynamics that exist as a result of that history and the EE Act implemented as a way to redistribute power and create equal opportunities for all living in South Africa, influence how social identities intersect and inform the experiences of women in this study. The specific findings around all of these issues are presented below.

### **How does gender inform the experience of female health managers?**

Morgan [16] argues that health systems are not gender-neutral. Evidence from the data supports this assertion, indicating that “gendered processes” are entrenched in the organisational structure of the South African health system and create structural and interpersonal barriers for health managers ([16], p. 10). The most prominent structural and interpersonal barriers expressed in the data related to gender are discussed below.

#### ***Gendered structural barriers***

Although pathways into management are opening up for women globally [18, 34], a male-dominated and led organisational structure persists and mimics, what Participant 2 referred to as, the “male-dominated

society” of South Africa. The spillover effect [20] of socially constructed gender roles and expectations into the health system, influencing the organisational structure and culture of the health system, results in structural barriers that (often female) health managers experienced throughout their careers. These barriers included expectations around working long hours, unfair distribution of household labour to women, lack of support for new mothers and, lack of recognition for women, even when in positions of authority.

Evidence from the interviews gives the perception that working overtime is valued behaviour. A male participant noted that once the old generation of general practitioners working in the small towns retired, women entering the health system would not be able to cover the overtime needed to run the health systems in these contexts:

*“I think about 60% of the medical classes today is female. But they are not going to cover the overtime that is needed in the system; and cover the void that is left by the older generation GPs in small towns, and in public hospitals” [P4, white male doctor].*

While this exact sentiment does not directly speak to leadership or refer to all health professionals, this kind of expectation and organisational culture is not limited to general practitioners [26]. A disproportionate burden of care (including domestic work and childcare) is carried by women in society [14] and this is driven by society at a meso/macro level. This can limit women’s availability to work long hours on a micro/meso level [16]. It also has the potential for women to be overlooked for leadership/senior positions or, if women do pursue such positions, it may have negative effects on their home life if they do not have supportive families, as many females have noted is necessary for their career advancement [35].

At the societal level, gendered norms and expectations, such as raising children, is perceived as the responsibility of women while at the health system level, these norms are not recognised and therefore impact the career advancement of women. A female manager noted that she decided to pursue a career in management in place of having children and also reflected on an example of the lack of organisational support for mothers:

*“I remember an incident with [an] epidemiologist [...] who said to me: ‘I have, I have twins that were premature, I cannot be at work before 9, I, I just can’t. I will work afterhours, I will, if I take work home, I will make sure my work is done but I can’t do it’ and eventually they let her go because we couldn’t fit her into the government rule” [P2, white female nurse].*

Broader social norms can spill over into the health system and perpetuate further structural barriers for female managers. Several female managers describe experiences with lack of recognition and having to work harder than men to garner respect from male superiors and colleagues. As articulated by two female managers:

*“The people who reported to her ... would by-pass her and go to the [male] HOD ... and go and complain there. So now... she’s [in a more senior leadership position]; they don’t have anywhere to go now... buck stops with her” [P12, black female nurse].*

*“You really actually have to work very hard to prove that you are capable managing and to get the respect of ... the [all male] heads of departments, they’ve got a specific view of leaderships ... I found in the early years that you really have to put a lot of effort in to get by” [P6, white female doctor].*

### ***Interpersonal factors influencing the leadership experience***

Given the historically oppressive context of South Africa and the male-dominated and led organisational structure of the health system [25], several (often black) female participants expressed that they were the first females to occupy positions of leadership in various departments across the health system – as noted in the primary study [13]. Therefore, female managers who spoke of mentors and allies referred to the positive influence of allies in their early careers. A black female manager shared that during apartheid, her supervisor gave her opportunities and acted as an ally to her during a time of systemic oppression that limited the career progression of (often black) females even in the health system:

*“She got all the flack from her white... personnel to say “Why are you putting a [black] person in charge of a ward?” But she persist[ed] on giving me all the opportunities” [P13, black female nurse].*

This experience encouraged her to apply for a senior management position. Another female manager also shared a similar sentiment regarding her pathway into a management position, stating that her previous supervisor encouraged her to apply for the position. A third female manager cited that a superior nominated her for an educational opportunity that helped her move from doctor to manager. Conversely, two female managers noted how the lack of allies or mentors made their early careers challenging. One of these managers noted this gap persists in the Department of Health and that given this experience, she has taken on a mentoring role for her staff. The overarching experience from the female managers was that regardless of race or gender, having positive mentors or allies assisted them in becoming mentors themselves; and when they became mentors, they often adopted a more explicit gender or race lens as they were often the first black person and/or female to hold certain positions and appreciated the importance of role-modelling.

### **How does race inform the experience of female health managers?**

Apartheid created the racial segregation of medical training among health professionals [25, 26]. Therefore it is no surprise that black (often female) managers noted that racial discrimination influenced their leadership careers and experience during apartheid. Two black female managers recounted that in their early careers they were often compared to their white counterparts, leaving them feeling alienated. This example and other overt examples of racism held these black females back from progressing in their careers.

A black female manager noted:

*"... you couldn't be the Sister in charge of the ward, because you're [black]. I couldn't apply for a job in [Name of area] ... because I'm [black] ... And they didn't appoint [black people] there... I couldn't even put... dash or a question mark on a report; then the white sisters will go and talk, and ask now 'Why did you?'" [P13, black female nurse].*

Hospital services were divided into two divisions according to race in the apartheid era, which lead to the separation between: "us [black health professionals] and them [white health professionals]" (P12 black female nurse). During apartheid, this (P12) female manager was even accused by her colleagues of being part of a *cabal*, which refers to a secret group whose mission it is to overturn the government. Another black

female manager recalls an experience where she was accused of being a communist, for having her university blazer in the office (the university being one reserved for black students and renowned for its radical politics at that time). After that incident, she notes, she was removed from being in charge of the ward. Black nurses were also pressured into abandoning their political affiliations during apartheid to secure their professional career, therefore directly serving the mission of the then apartheid state.

The remnants of this racial discrimination, while not as overt, still permeate within the health system even over two decades into democracy in South Africa. It is mostly still visible in racial disparities in access to quality health care [25, 26]. Health managers' describe current experiences related to racism as an underlying, mostly covert, tension. As articulated by a black female manager:

*"Remember... with regards to race and whatever; those are some of the things, you can't really know how people feel until there is something very abrupt that comes up. It's only when people – you know people are able to shield some of these things you know, [white people] sugarcoat some of the things. It's only when there's something that really... triggers [white people] then ... you will be able to know that 'Oh this one is racist, why is he saying all these thing'" [P16, black female nurse].*

The new democratic government introduced the EE Act, an affirmative action policy, after apartheid was dismantled. It was instituted as a means to remedy the past, overt racial and gender discrimination and its lingering effects of covert discrimination related to employment. However, many of the participants expressed the view that the goal of achieving gender or racial equality should not supersede performance and skill when making staff appointments. Respondents noted certain negative connotations related to people appointed for EE reasons - which can be read as covert discrimination that continues to limit black and black female health professionals in gaining and keeping leadership positions. As articulated by two black female managers:

*"If you're an employment equality appointment people watch you like a hawk, and those of different colour even more... forget the racism in this office, just forget it because if you blame, you lose, you*

*do lose the ability to change, you need to change into a manager, it's hard work" [P8, black female doctor].*

*"I would have felt bad if I was an equality appointment. But I think I don't feel bad being an out of equality appointment coz I feel then the appointment was done on merit and if the department is obviously subjected to, to a bigger policy on equality which they don't control" [P10, black female nurse].*

The latter female manager noted that she would not like to be appointed based on her gender and race. These perceptions perpetuate the "imposter syndrome" that women often feel [19], which are not addressed through the EE Act instead, it seems to create tensions for (often black) females in this study as noted above.

### **How does professional cadre inform the leadership experience of female health managers?**

According to Coovadia et al. [25], the early history of nurse training in South African saw this training as a "socialisation process," which also taught nursing students to view themselves as "subordinate to doctors and as authority figures in control of the lives of their patients." ([25], p. 829). The remnants of this approach early on in their training still prevail across interviews.

### ***The perpetuation of professional hierarchy and doctors as the gatekeepers of authority***

Professional cadres within the health system are organised into an implicit professional hierarchy with doctors believed to be more valued than nurses and allied health professionals. Nurses explicitly stated that they feel that they must prove themselves more than doctors, and the same goes for two allied health professionals included in the study. The professional hierarchy is also perpetuated by the lack of authority nurses are given for decision-making when working with doctors. One nurse expressed that having had limited opportunity to practice the strategic skills necessary for succeeding in leadership, she feels inadequate:

*“I’m not quite sure whether this is my own feeling but as a nurse, you know from, we come from a background where you were always told by the doctor, you have to do this you know, so I come with that background of not being a strategic person, I’m an operational person. If you tell me do this, I will run with it ... and then if you say this I have to ... sleepless nights trying to think how do I approach this you know, so I think that’s my weakness of having been a nurse all my life” [P12, black female nurse].*

The interviews with nurses and doctors indicated that doctors do not always take instructions from nurses because of the power dynamics that play out due to the professional hierarchy. The example below describes a nurse director having to rely on a doctor ally to assist her in getting leading doctors:

*“... one director who is a nurse ... she has quite a lot of problems from the doctors... so she has to use doctors to manage the doctors. So there are those doctors who believe in her, she goes through those to manage the other doctor” [P7, black male doctor].*

Another female manager, who is an Occupational Therapist, adopted a similar strategy by asking her doctor colleague to lead a presentation because she believed that doctors would be more open to hearing from another doctor. There are also other subtle or covert acts that made nurses feel inferior to doctors presented in the interviews and which, as one nurse manager stated: “makes [her] feel like [she is] not a doctor, that [she does not] have insight.” These two phrases, alongside one another, imply that only doctors can have insight.

***Leadership competencies are geared towards doctors and the senior management structure reflects this***

Additionally, several nurses suggested that doctors’ qualifications have management competencies embedded within them. While one nurse makes the distinction between nurses and leaders, she stated:

*“I didn’t see myself as a typical nurse; but as a leader – that’s why I find my way to be a leader within the nursing fraternity” [P15, black female nurse].*

This quote suggests that she perceive these two identities - nurse and leader - as mutually exclusive. Another nurse manager noted that nurses are not as “eloquent” as doctors or other allied health professionals. They are more operational, stating that for nurses, it is about how things get done and not about how things are managed.

### **Intersectional issues that influence gender**

The results above indicate that gender, race and professional cadre are relational concepts that are influenced by historical access to power as well as its distribution among genders (i.e. men and women), races (i.e. black people and white people), and professional cadre (i.e. doctors, nurses and other allied health professionals). Crenshaw theorised [29], intersecting social identities almost always influences gendered experience and the distribution of, and access to, power related to it. The data provides evidence for this sentiment. Even when identities are assessed discretely, issues related to gender in this study seem to tell a full story when considering the interplay between gender, race and professional cadre. For example, female managers face structural and interpersonal barriers throughout their career trajectory. There is a clash between professional expectations, such as working overtime, and socially gendered norms that place the responsibility of domestic labour and childcare predominantly on women making it challenging for women to meet those expectations. In addition, hurdles related to the need for female leaders to work harder because of gendered stereotypes correlated to women’s abilities in positions of authority is also present in the findings.

Given that historically the medical profession is gendered, doctors have often been men [26], which created further structural and interpersonal barriers for female nurses. Moreover, the history of the nursing profession under apartheid established nursing as a typical career pathway for black women [25], while research shows that doctors are predominantly white and often also male [26]. With this in mind, this section will address explicit mention of how gender intersected with race and professional cadre to produce unique, intersectional experiences for the female managers in this study and how that influenced their leadership experience.



***"It's not racism, it's gender" or is it both?***

Although most female managers perceived the organisational structure to be male-dominated and led, predominantly black female managers mentioned that they have had to navigate race and gender in what Participant 8 refers to as, the “white male establishment”. Participant 8 noted that throughout her career, those in opposition to her were often those belonging to that “establishment”. Participant 10 noted that her colleague, although also a nurse, received less criticism from senior management because she was a white female. However, she goes on to say that on an immediate level, her colleague still received criticism from her male supervisors, which shows how the intersection of race and gender plays out differently for black and white women while still affecting women overall.

During apartheid, there was a lack of camaraderie among female colleagues. A black female manager recalled her experiences working alongside other women:

*“... you’d go to meeting and you’d think we are all women and people would just go by, pass you know, without even greeting” [P12, black female nurse].*

The segregation between races under apartheid exacerbated this gendered experience. A black female participant described this separation as a contributor to weak relationships among team members that have taken time to build. This point could potentially speak to the lack of camaraderie among women during apartheid, as black and white female health professionals did not have many opportunities to work together under apartheid. She noted:

*“All the team on that side was white ... and each one of them would actually [make comments that black people were forming a] cabal ... it was such a very tense environment. You’d go to some meetings, there are females, white females on the other side... it’s taken years to build a relationship even with the other directors within the department” [P12, black female nurse].*

Meanwhile, participant 19, a white female nurse manager, experienced the current environment quite differently and felt that currently, her gender and race affected her chances of taking up a more senior

management position. Given the affirmative action policies in place, she felt that her race acted against her and given the male-dominated and doctor-led organisational structure, her gender and professional cadre also acted as a barrier for her.

### ***The gendered professional identity***

As gender and professional cadre intersect, the professional identity of various cadres is gendered. The inherent professional hierarchy also influences this as it promotes men and doctors into top leadership positions. Participant 9 gives an example from her experience about how gender intersects with professional cadre:

*“... because he was a doctor and because he was male... it was clearly this level of comfortability around the table, they were known as the, they had some name, you know they’d call themselves some name... a club, some club, they’d say it glibly and laugh about it” (P10, black female nurse).*

In this example, where gender and professional cadre intersect, male doctors form a group. This informal and self-created professional space excludes female nurses because of their gender and professional cadre. While these “boys’ clubs” are seemingly harmless, it does isolate female colleagues by creating further interpersonal barriers between male doctors and females. Moreover, it has the potential to limit the opportunities for advancement for women, as certain social settings are not open to women.

P10 notes that her authority was further undermined when her subordinate was invited to be part of this informal professional network, and she was not. She goes on to say that perhaps because he was a doctor and a man, the senior management felt comfortable. Another female nurse also shows how various professional cadres are gendered. She noted that as a nurse, she faced some judgement because she was not a doctor in a senior leadership position. She recalled that if someone did not know her, they would refer to her as either “Mr” or “Dr” in correspondence but never as “Mrs”. This example indicates that the organisational culture of the health system is one that deems senior management a default role for either males or doctors or a combination of those two identities.

### ***The intersection of gender, race and professional cadre: a triple threat***

Although only one health manager explicitly mentions the intersecting influence of all three social identities, the findings already presented have established that professional hierarchy is gendered and historically speaking, men are doctors. Furthermore, according to van Rensburg [26], the concentration of white medical practitioners (16 936) in contrast to Black African (8354), Indian (5314) and *mixed-race* (927) is also a reflection of the country's history. These numbers support the assertion that the "white male establishment" is also most likely doctor-led. Participant 10 shares how her race, gender and professional cadre intersected to influence her leadership experience:

*"I was a [black] female, I was not a doctor, I was not white... and the history of the department before that time had been very white, very doctor driven" [P10 black female nurse].*

She notes that only once she showed herself as "somebody who is able to perform the function," was she respected by her colleagues and finally invited into the inner circle of the boys' club. This example again speaks to the "prove it again" phenomenon experienced by female managers, who are often also black and nurses. Given the earlier findings related to the intersection of professional cadre and gender, doctors - who historically were often male - were deemed as the voice of authority. Even when this participant became a leader, the "history of the department" perpetuated feelings of exclusion given that her identities were in contradiction to what she noted to be the norm in that department. On a macro level, the white-doctor headed structure was most likely influenced by apartheid as seen in the findings on the influence of race, and this may have resulted in the professional hierarchy the participant describes – which acts as a subtle remnant of the historically sexist and racist limitations facing black women entering spaces of authority.

## **Discussion**

Using Bilge's two-step intersectionality approach [31], this paper sought to explore how gender, race and professional cadre – discretely and together - influenced the leadership experience of female managers in the South African health system. This multi-level analysis considered the influence of macro (i.e. history and

policy), meso (i.e. organisational structure and culture) and micro (i.e. individual and interpersonal) factors on the leadership experience of female health system managers of different races and professional cadres in South Africa currently (2018, see [13]). The interplay between layered factors creates and perpetuates the distribution of, and access to, power thereby influencing, even limiting, the careers of females in this study.

While individual social identities discretely influence the experience of health managers when gender intersects with social identities, different barriers occur for black female (often nurse) managers. This analysis found that gender was not the sole influence on leadership experience, a finding supported by the primary study [13] as well as other literature in a LMIC context [12, 14, 15]. Instead, gender always intersected with race and/or professional cadre to produce unique experiences and barriers related to the leadership experience of female managers even when social identity was explored discretely.

The findings presented above suggest that black female nurse's leadership experiences in the South African health system are linked to multiple and interlocking systems of sexism, racism and professional hierarchy at the macro level predominantly due to apartheid. Her micro-level experiences - at the intersection of her race, gender and professional cadre - correspond with empirically documented evidence of the gendered processes that influence health system organisational cultures, hiring processes and the often non-linear career pathways for black female nurses [13, 14]. The "prove it again" phenomenon experienced and shared by (often black) females and nurses is another intersectional structural barrier [14].

The history of South Africa, imbued with racial and gender discrimination as well as the historically segregated medical profession, provides a contextual backdrop for this analysis. How power was, and is, distributed is influenced by both time and space. The changing political climate and the ensuing EE policies implemented in 1998 [28] shifted some of that power and its influence on social identities, creating more pathways for (often black) females. However, white male doctors still hold the most power at every juncture and dominate the organisational decision-making space.

Overt experiences of racism heavily influenced the leadership experience and career trajectories of black and often also female managers under apartheid. Several female managers also noted that given the

unequal distribution of power among race and gender and limitations on career advancement, they were often the first (often black) female to take up particular leadership positions mainly in their early careers although in many cases even with the EE policy in place. This form of intersectional invisibility is a paradoxical experience wherein black women – who did not often take up leadership positions - became hyper-visible when they became the only black female manager in a particular department. Without another black female manager role model with a similar background or experience, it placed these women in the spotlight and gave them a tokenistic status. Similarly, in a study on the experiences of black registrar doctors in training in South Africa, the negative effects of tokenism and institutionalised racism were also identified. Black female doctors in this study experienced stigma for being black and female, separately, noting that two of their identities were at odds with the concept of the “ideal doctor” ([36], p. 5).

The EE Act – which is legislation created to undo the structural discrimination entrenched through apartheid - was noted by many managers to be essential for transformation and social justice in South Africa. However several perceptions around EE policies were not wholly positive. Strained perceptions around the EE Act left several black (often also female) managers feeling nervous about being appointed merely because of their EE status. One black female manager warned black colleagues of “the target it leaves on the back”, again speaking to the fear around the hyper-visibility of being the first woman and black woman in a position of power. This finding hints at the perceptions of the perceived tokenistic-nature of EE policies and also demonstrates the “prove it again” culture that predominantly black female managers experienced in their early careers, even in positions of senior leadership. A study in Kenya noted that while the participants expressed gender as a “non-issue,” – with one participant in particular highlighting the 2010 constitutional decree for gender representation in leadership implemented to redress inequality as the reason – gendered factors still differentiated leadership experiences of managers [14]. The inference that gender was a non-issue because a certain number of women were appointed was deemed inherently problematic and throws a spotlight on equity policies as a placating gesture in some regards as well as the importance of analysing multiple dimensions of equality in the case of the Kenyan study [14, 18].

This analysis also provides evidence that the organisational structure and culture within which these health managers work have an intersectional bias. Across the interviews, these three statements came up: “male-dominant society”, the “white male establishment” and the “doctor-led organisation”. These statements address the influence of macro forces that influences the relational interactions between people as well as the distribution of power. These statements and further evidence from the findings indicate an intersectional bias for white male doctors as having the most access to power. This intersectional bias could be the potential cause for the structural, interpersonal and individual barriers, which fosters an organisational structure that does not implement supportive policies for women and mothers, lacks formal mentorship for female managers in their early careers and, allows an environment that accepts networking spaces that exclude women and instead continue to encourage male ascendancy.

While the purpose of this study was to better understand the complex entanglement between gender and other social identities and its influence on the leadership experiences of female health managers, it should be noted that the analysis brought insights into the intersection between social identities beyond gender, race and professional cadre. Several female participants mentioned the influence of religion as a significant influencing factor on lives, some also including the reach of that influence on their career trajectories. While another black male manager noted that not being a South African had implications for his leadership experience and lived experience in South Africa. He noted that he felt like an “external minority” because of his race and, an “internal minority” in terms of his ethnicity. Meanwhile, a male health manager expressed feeling alienated in a female-dominated department. This example is an alternative take on the influence of gender. While outside the scope of this research, all of these examples are interesting as it suggests that discrimination is far more complex and requires further exploration.

Although an intersectionality approach provides a conceptually robust framework with which to explore the influence of intersecting social identities within broader interlocking structures of power relations, methodological guidance is still limited for conducting such analyses. Additionally, the validity of claims made here about the female manager experience could be challenged, as the male manager experience is

not explored alongside it. However, the decision to focus solely on the experiences of female managers is an appropriate starting point [21] especially given that there is limited research conducted using an intersectional approach in the LMIC context currently (2020).

## **Conclusion**

This intersectionality analysis of gender and health leadership is the first study explicitly using an intersectionality approach to understand the leadership experiences of female managers in the South African health system. Confirming the primary study, and broader literature, it provides further evidence on how categories of difference, such as race and professional cadre, interact with gender to compound inequalities for different women. It also, adding to the primary study, offers insights into the operation of power and processes of unseen discrimination in the experience of gender and health leadership [13]. However, these findings illuminate the challenges of more inclusive health systems leadership within South Africa.

The findings suggest that the EE Act cannot be a catchall for achieving gender equality in HRH and leadership. Addressing compounded challenges faced by (often black) female nurses in this context will, instead, require formalised systems such as mentorship established for young female health professionals by experienced female health leaders early on in their careers and continuous leadership development and training for black females and female nurses to ensure gender equality for all current female leaders and aspiring leaders. Additionally, in order to encourage greater participation in leadership, there needs to be psychological buy-in and support from (often white) male stakeholders, who often still are at the helm.

The paper, finally, provides contextually situated lessons for those seeking to understand and develop the use of an intersectionality approach in research on gender and leadership in other LMIC and African health care settings, where such research remains underdeveloped. An intersectionality lens is a vital tool when engaging in gender parity policy discussions or linked research in similar contexts.

The three fundamental principles of intersectionality that have implications for, and should drive, future HPSR work – as postulated by Bowleg [21] and as evidenced by the findings and discussions of this study, are:

- Social identities are not independent but rather multiple and almost always intersecting in unique ways. Therefore research approaches that use a unitary lens to understand human experience - while capturing some of this experience - do not tell the full story and are at risk of missing essential experiences, which commonly affect the historically oppressed and marginalised.
- Research should begin with historically oppressed and marginalised stakeholders. These will be people who are underrepresented and are often women, although there may also be other experiences of marginality. As the results and discussion sections noted, the influence of gender and race created barriers for a few male managers in this study. A white female nurse also noted that her gender, race and professional cadre intersected to create barriers for her career progression because of the EE Act and the gendered professional hierarchy. The latter example shows the interplay between micro level and macro level factors. Given this recommendation, researchers should also take note of the study context in order to determine the best starting point.
- Multiple social identities - at the micro-level - intersect with macro-level structural factors to produce different experiences. In South Africa, as shown here, intersections of gender with race and professional cadre are so entrenched in historical racism and sexism that when talking about gender issues, race is always also part of that discussion. Moreover, given that the medical profession is both gendered and has a history of racial segregation because of apartheid, gender, race and professional cadre are co-constructed identities influenced by macro-level structural factors such as sexism, racism and professional hierarchy.

If the goal is to build stronger and more resilient health systems that meet the SDGs, effective leadership that capitalises on the diversity of its stakeholders must be a priority. Intersectionality offers public health research, both qualitative and quantitative, insights that highlight the barriers to achieving more significant



participation in leadership necessary for effective leadership as envisioned by the WHO and its endorsement of participatory leadership [7].

An intersectionality approach enables an examination of the simultaneous impact of, and resistance to, systems and structures of oppression and domination such as racism, sexism and the inherent professional hierarchy within health systems that privilege the medical profession and that dictates access to and distribution of power for different people [22, 37]. An intersectionality approach encourages a conceptual shift in how HPSR researchers understand social identity and the relationships and interactions between social identities. Hankivsky [22] posits that such a conceptual shift requires: “a consideration of the complex relationship between mutually constituting factors of social identity and structural disadvantage to more accurately map and conceptualise determinants of equality” - and this can be applied to health system leadership, as here, and beyond (p.2).

Therefore, future HPSR work should use intersectionality to a) explore the nuanced experiences of women in leadership related to intersecting identities in African and LMIC contexts, and b) support the necessary reorientation towards a participatory health leadership approach by addressing and potentially breaking down barriers that impede different women in taking up roles in decision-making spaces. Such research can help strengthen existing leadership and create pathways for future leadership in LMICs by engaging diverse and previously underrepresented stakeholders in determining barriers and potentially also enablers. Integrating an intersectionality approach into HPSR work and leadership development is directly aligned with the 2030 Agenda for sustainable development, which endeavours to leave no one behind [38].

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## Appendices

### Appendix A: UCT Ethics Approval Letter



UNIVERSITY OF CAPE TOWN  
Faculty of Health Sciences  
Human Research Ethics Committee



Room E53-46 Old Main Building  
Groote Schuur Hospital  
Observatory 7925  
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30 April 2019

**HREC REF: 177/2019**

**Prof L Gilson**  
Public Health and Family Medicine  
Falmouth Building  
Medical School

Dear Prof Gilson

**PROJECT TITLE: THE APPLICATION OF INTERSECTIONAL ANALYSIS TO DATA ON GENDER AND LEADERSHIP IN THE PUBLIC HEALTH SYSTEM IN SOUTH AFRICA. (SUB-STUDY LINKED TO 183/2015) (MASTER OF PUBLIC HEALTH CANDIDATE: MS M REDDY)**

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study.

**Approval is granted for one year until 30 April 2020.**

The HREC acknowledges that the following Master of Public Health Candidate, Miss Mishka Reddy, is also involved in this study.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: [www.health.uct.ac.za/fhs/research/humanethics/forms](http://www.health.uct.ac.za/fhs/research/humanethics/forms))

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator **must** obtain appropriate institutional approval, where necessary, before the research may occur.

Yours sincerely

*MB*  
**PROFESSOR M BLOCKMAN**  
**CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE**  
Federal Wide Assurance Number: FWA00001637.  
Institutional Review Board (IRB) number: IRB00001938  
NHREC-registration number: REC-210208-007

This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical

## **Appendix B: Journal Style Guide**

### **Aims and scope**

International Journal for Equity in Health presents evidence relevant to the search for, and attainment of, equity in health across and within countries. The journal publishes research, which improves the understanding of issues that influence the health of populations. This includes the discussion of political, policy-related, economic, social and health services-related influences, particularly with regard to systematic differences in distributions of one or more aspects of health in population groups defined demographically, geographically, or socially.

### **Research criteria**

Research papers should adhere to the STROBE guidelines according to the study's design.

International Journal for Equity in Health encourages authors of qualitative papers to use the RATS framework when preparing their manuscript for submission.

### **Preparing your manuscript**

The information below details the section headings that you should include in your manuscript and what information should be within each section.

Please note that your manuscript must include a 'Declarations' section including all of the subheadings (please see below for more information).

### **Title page**

The title page should:

- present a title that includes, if appropriate, the study design e.g.:
  - "A versus B in the treatment of C: a randomized controlled trial", "X is a risk factor for Y: a case control study", "What is the impact of factor X on subject Y: A systematic review"
  - or for non-clinical or non-research studies a description of what the article reports
- list the full names, institutional addresses and email addresses for all authors

## Appendices

- if a collaboration group should be listed as an author, please list the Group name as an author. If you would like the names of the individual members of the Group to be searchable through their individual PubMed records, please include this information in the “Acknowledgements” section in accordance with the instructions below indicate the corresponding author

### Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. Reports of randomized controlled trials should follow the CONSORT extension for abstracts. The abstract must include the following separate sections:

- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used
- **Results:** the main findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be included in this section. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'. See our editorial policies for more information on trial registration

### Keywords

Three to ten keywords representing the main content of the article

### Background

The Background section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

### Methods

The methods section should include:



## Appendices

- the aim, design and setting of the study
- the characteristics of participants or description of materials
- a clear description of all processes, interventions and comparisons. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses
- the type of statistical analysis used, including a power calculation if appropriate

## Results

This should include the findings of the study including, if appropriate, results of statistical analysis, which must be included either in the text or as tables and figures.

## Discussion

This section should discuss the implications of the findings in context of existing research and highlight limitations of the study.

## Conclusions

This should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

## List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

## Declarations

- All manuscripts must contain the following sections under the heading 'Declarations':
- Ethics approval and consent to participate
- Consent for publication
- Availability of data and material
- Competing interests
- Funding
- Authors' contributions

## Appendices

- Acknowledgements
- Authors' information (optional)

Please see below for details on the information to be included in these sections.

If any of the sections are not relevant to your manuscript, please include the heading and write 'Not applicable' for that section.

### ***Ethics approval and consent to participate***

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Studies involving animals must include a statement on ethics approval and for experimental studies involving client-owned animals, authors must also include a statement on informed consent from the client or owner.

See our editorial policies for more information.

If your manuscript does not report on or involve the use of any animal or human data or tissue, please state "Not applicable" in this section.

### ***Consent for publication***

If your manuscript contains any individual person's data in any form (including individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

You can use your institutional consent form or our consent form if you prefer. You should not send the form to us on submission, but we may request to see a copy at any stage (including after publication).

See our editorial policies for more information on consent for publication.

If your manuscript does not contain data from any individual person, please state “Not applicable” in this section.

### ***Availability of data and materials***

All manuscripts must include an ‘Availability of data and materials’ statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Data availability statements can take one of the following forms (or a combination of more than one if required for multiple datasets):

The datasets generated and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS]

- The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- All data generated or analysed during this study are included in this published article [and its supplementary information files].
- The datasets generated and/or analysed during the current study are not publicly available due [REASON WHY DATA ARE NOT PUBLIC] but are available from the corresponding author on reasonable request.
- Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

## Appendices

- The data that support the findings of this study are available from [third party name] but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of [third party name].
- Not applicable. If your manuscript does not contain any data, please state 'Not applicable' in this section.

More examples of template data availability statements, which include examples of openly available and restricted access datasets, are available [here](#).

BioMed Central also requires that authors cite any publicly available data on which the conclusions of the paper rely in the manuscript. Data citations should include a persistent identifier (such as a DOI) and should ideally be included in the reference list. Citations of datasets, when they appear in the reference list, should include the minimum information recommended by DataCite and follow journal style. Dataset identifiers including DOIs should be expressed as full URLs. For example:

Hao Z, AghaKouchak A, Nakhjiri N, Farahmand A. Global integrated drought monitoring and prediction system (GIDMaPS) data sets. figshare. 2014.

<http://dx.doi.org/10.6084/m9.figshare.853801>

With the corresponding text in the Availability of data and materials statement:

The datasets generated during and/or analysed during the current study are available in the [NAME] repository, [PERSISTENT WEB LINK TO DATASETS].[Reference number]

If you wish to co-submit a data note describing your data to be published in BMC Research Notes, you can do so by visiting our submission portal. Data notes support open data and help authors to comply with funder policies on data sharing. Co-published data notes will be linked to the research article the data support (example).

*For more information please email our Research Data Team.*

### ***Competing interests***

All financial and non-financial competing interests must be declared in this section.

See our editorial policies for a full explanation of competing interests. If you are unsure whether you or any of your co- authors have a competing interest please contact the editorial office.

Please use the authors initials to refer to each author's competing interests in this section.

If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

### ***Funding***

All sources of funding for the research reported should be declared. The role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript should be declared.

### ***Authors' contributions***

The individual contributions of authors to the manuscript should be specified in this section.

Guidance and criteria for authorship can be found in our editorial policies.

Please use initials to refer to each author's contribution in this section, for example: "FC analyzed and interpreted the patient data regarding the hematological disease and the transplant. RH performed the histological examination of the kidney, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript."

### ***Acknowledgements***

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section. See our editorial policies for a full explanation of acknowledgements and authorship criteria.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

## Appendices

Group authorship (for manuscripts involving a collaboration group): if you would like the names of the individual members of a collaboration Group to be searchable through their individual PubMed records, please ensure that the title of the collaboration Group is included on the title page and in the submission system and also include collaborating author names as the last paragraph of the “Acknowledgements” section. Please add authors in the format First Name, Middle initial(s) (optional), Last Name. You can add institution or country information for each author if you wish, but this should be consistent across all authors.

Please note that individual names may not be present in the PubMed record at the time a published article is initially included in PubMed as it takes PubMed additional time to code this information.

### ***Authors' information***

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials.

Note this section should not be used to describe any competing interests.

### ***Endnotes***

Endnotes should be designated within the text using a superscript lowercase letter and all notes (along with their corresponding letter) should be included in the Endnotes section. Please format this section in a paragraph rather than a list.

### ***Footnotes***

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

## Appendices

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data).

Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

## **References**

All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text, followed by any in tables or legends. The reference numbers must be finalized and the reference list fully formatted before submission.

Examples of the BioMed Central reference style are shown below. Please ensure that the reference style is followed precisely.

See our editorial policies for author guidance on good citation practice.

**Web links and URLs:** All web links and URLs, including links to the authors' own websites, should be given a reference number and included in the reference list rather than within the text of the manuscript. They should be provided in full, including both the title of the site and the URL, as well as the date the site was accessed, in the following format: The

Mouse Tumor Biology Database. <http://tumor.informatics.jax.org/mtbwi/index.do>. Accessed 20 May 2013. If an author or group of authors can clearly be associated with a web link (e.g. for blogs) they should be included in the reference.

### **Example reference style:**

#### *Article within a journal*

Smith JJ. The world of science. *Am J Sci.* 1999;36:234-5.

#### *Article within a journal (no page numbers)*

Rohrmann S, Overvad K, Bueno-de-Mesquita HB, Jakobsen MU, Egeberg R, Tjønneland A, et al. Meat consumption and mortality - results from the European Prospective Investigation into Cancer and Nutrition. *BMC Med.* 2013;11:63.

## Appendices

### *Article within a journal by DOI*

Slifka MK, Whitton JL. Clinical implications of dysregulated cytokine production. Dig J Mol Med. 2000; doi:10.1007/s801090000086.

### *Article within a journal supplement*

Frumin AM, Nussbaum J, Esposito M. Functional asplenia: demonstration of splenic activity by bone marrow scan. Blood 1979;59 Suppl 1:26-32.

### *Book chapter, or an article within a book*

Wyllie AH, Kerr JFR, Currie AR. Cell death: the significance of apoptosis. In: Bourne GH, Danielli JF, Jeon KW, editors. International review of cytology. London: Academic; 1980. p. 251-306.

OnlineFirst chapter in a series (without a volume designation but with a DOI)

Saito Y, Hyuga H. Rate equation approaches to amplification of enantiomeric excess and chiral symmetry breaking. Top Curr Chem. 2007. doi:10.1007/128\_2006\_108.

### *Complete book, authored*

Blenkinsopp A, Paxton P. Symptoms in the pharmacy: a guide to the management of common illness. 3rd ed. Oxford: Blackwell Science; 1998.

### *Online document*

Doe J. Title of subordinate document. In: The dictionary of substances and their effects. Royal Society of Chemistry. 1999. [http://www.rsc.org/dose/title of subordinate document](http://www.rsc.org/dose/title%20of%20subordinate%20document). Accessed 15 Jan 1999.

### *Online database*

Healthwise Knowledgebase. US Pharmacopeia, Rockville. 1998. <http://www.healthwise.org>. Accessed 21 Sept 1998.



## Appendices

### *Supplementary material/private homepage*

Doe J. Title of supplementary material. 2000. <http://www.privatehomepage.com>. Accessed 22 Feb 2000.

### *University site*

Doe, J: Title of preprint. <http://www.uni-heidelberg.de/mydata.html> (1999). Accessed 25 Dec 1999.

### *FTP site*

Doe, J: Trivial HTTP, RFC2169. <ftp://ftp.isi.edu/in-notes/rfc2169.txt> (1999). Accessed 12 Nov 1999.

### *Organisation site*

ISSN International Centre: The ISSN register. <http://www.issn.org> (2006). Accessed 20 Feb 2007.

### *Dataset with persistent identifier*

Zheng L-Y, Guo X-S, He B, Sun L-J, Peng Y, Dong S-S, et al. Genome data from sweet and grain sorghum (*Sorghum bicolor*). GigaScience Database. 2011. <http://dx.doi.org/10.5524/100012>.

## **Figures, tables additional files**

See General formatting guidelines for information on how to format figures, tables and additional files.